University News

A CHRONICLE OF HIGHER EDUCATION & RESEARCH JUNE 16, 1977 80 PAISE

Dr. S. Chandrasekhar, Vice-Chancellor of Annamalai University, receiving the Bicentennial Gold Medal from Dr. Everett Kleinjans, Chancellor, East-West Centre at Honolulu.

● Library System fo Higher Education

●● Environmental Centres

●●● Examination Business

●●●● Resource Centre for Non-formal Education

●●●●● New Pattern of Education

CLASSIFIED ADVERTISEMENTS

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Advertisement No. 882/77

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Applications on plain paper, giving full details of qualifications, age, experience, present pay, scale of pay, should reach the Assistant Registrar (R & C) Jawaharlal Nehru University, New Mehrauli Road, New Delhi-110057, latest by **7th July, 1977.**

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Desirable:

Some teaching experience of graduate classes.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of the qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's Degree or equivalent research work is not available or or is not considered suitable, a person possessing a consistently good academic record (weightage being given to M.Phil. or equivalent degree or research work of quality may be appointed provided he has done research work for atleast two years or has practical experience in a research laboratory/organisation on the condition that the will have to obtain a Doctor's Degree or give evidence of research work of equivalent high standard within five years of his appointment, failing which he will not be able to earn future increments until he fulfils these requirements.

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Editor : **ANJNI KUMAR**

R-UNIVERSITY BOARD OF INDI
LIBRARY

Resource Centre for Non-formal Education

The ruin of a democracy is mass illiteracy; the canker that destroys the literate is mass unemployment. And to say that mass illiteracy and widespread unemployment are two of India's major scourges would be to emphasise the obvious. And to say in the same breath that one major reason for this state of affairs is the gaps and drawbacks of the formal educational system would be to repeat the oft-repeated.

Nevertheless facts cannot be suppressed, "52 per cent of the 56 lakh school pupils drop-out of school before Standard V, 80 per cent are out of school at Standard XI, 97 per cent of the relevant age group are just not to be found in the B.A., B.Sc., or B.Com. classes; they must be placed alongside of the 2.2 crore adult illiterates – men and women — who are mostly rural cultivators and labourers."

If this is the situation with reference to school drop-outs, of those who manage to complete the courses, 3,00,000 SSLCs, graduates and postgraduates are registered as unemployed in the Employment Exchanges in the State.

From all this it is obvious that the formal education system excludes a sizable portion of our people and those it includes it alienated from employability. This is not to detract from the necessity of the formal educational system and its positive contributions to national development in the past and in the future. This only poses a challenge to those who have concern for the underprivileged millions—to spring to action — reflection with reference to alternative modes of education.

TASKS

Non-formal Education is an alternative.........'It is possible to describe non-formal education (NFE) in Tamilnadu as the organised provision of learning opportunities outside of the formal educational system covering a person's life-time, and programmed to meet a specific need — remedial or vocational or health or welfare or civic or political or for self-fulfilment."

This concept of NFE can serve the following priority tasks in making up for the deficiencies of the formal system.

(a) Provide out-of-school education and training in basic learning skills for school drop-outs in the age group 6-15.
(b) Provide functional literacy for illiterate adults — farmers, rural women and individuals in the age group 15-25 — to enable working people to have a minimum of earning skills.
(c) Providing education and training for small, marginal farmers and landless labourers, both men and women to raise their incomes and agricultural production.

(d) Provide industrial, health and family planning, social welfare, arts and crafts, teacher and management training.

(e) Provide continuing education in Citizenship and Community Participation.

TNBCE AND NFE

The Tamilnadu Board of Continuing Education (TNBCE) was first established in the summer of 1973 as an affiliate of the Madras Christian Council of Social Service in order to initiate a project of non-formal education for school dropouts from the slums of Madras City. This Board has taken over the reins of leadership in non-formal education over the years by promoting the concept through experimental projects, research and action programmes and through facilitating interaction between various agencies involved in non-formal education. In the course of its endeavours, the TNBCE has felt the need for establishing a Resource Centre for Non-formal Education (RCNFE).

The Resource Centre for Non-formal Education has been established with the following aims and objectives :

1. To conduct studies in the Socio-anthropological and socio-economic conditions in the villages, towns and slums in order to identify educational needs of local communities.

2. (i) To organise training programmes in non-formal education for the following categories of persons : organisers, directors, supervisory staff, inspecting staff, field workers, curriculum designers and writers; (ii) To conduct demonstrations of different methods from time to time to workers in the field and for the inspectorate; (iii) To conduct from time to time refresher courses to enable workers and inspectors to revise and update their work and maintain and improve their skill; (iv) To conduct village leadership courses.

3. (i) To devise curricula for specific needs of different human groups through field studies and analysis of needs and make them available to field workers; (ii) To develop suitable learning materials for the courses and also to establish learning materials of general value.

4. (i) To devise appropriate methods of evaluation for the different programmes of non-formal education according to their aims and objectives. (ii) To conduct evaluation seminars.

In providing consultancy services priority will be given to Government programmes of non-formal education. The Resource Centre will not be a mere generator of ideas, but is envisaged as a source of action and reflection. Because of belief in the Paulo Freirian conviction that action without reflection is mere activism and reflection without action is mere verbalism.

THE DEPARTMENTS

The Centre which came into existence on Feb 1, 1977 is made up of three departments: 1. A Curriculum Development Department; 2. A Training Department; 3. A Research and Evaluation Department.

These Departments will collaborate with each other to promote the aims and objectives of the Centre.

The Government of Tamilnadu issued orders for the starting of 374 NFE centres — one in each of the 374 Panchayats in Tamilnadu — from January, 1976. The services of the Resource Centre were commissioned for conducting training programmes of the NFE centres.

As a preliminary step, an orientation seminar on Non-formal Education was conducted for DEOs, CEOs, Inspectoresses of Girls' Schools, Inspectors of Anglo-Indian Schools from Jan. 28 to 30,1977 at the RCNFE. The goals of NFE, the Methodology of NFE and the organisational Procedures connected with NFE centres were discussed.

In the second phase, training programmes were conducted for Deputy Inspectors of Schools first and then NFE Instructors separately at seven district headquarters for the 14 districts of Tamilnadu. The DIs underwent a three days orientation seminar, the NFE Instructors underwent a six days orientation seminar on matters related to the non-formal education. The entire round of training programmes were covered within six weeks. Dr. Rosario Gomez, Director, RCNFE, Mrs A. V. Padma, Department of Training, RCNFE, Mr P. S. Santhana Raman, District Project Officer, Tiruchirappalli, Mr M. Krishnasamy, District Project Officer, Coimbatore, Mr A. R. Kaliyamurthi, DI Directorate of NFE and Mr S. V. Ponniah DI, Kabilamalai, were the facilitators for the training programmes.

Besides these training programmes, Dr. Gomez was commissioned by the Directorate of Non-formal Education to evaluate the 200 NFE centres for the age group 15-25 in Coimbatore and Tiruchirappalli District begun on March 1.

FUTURE PLANS

The Resource Centre is presently drawing up plans to explore the possibility of linking the NSS programmes to NFE programmes. This will enable the intellectual community to contribute to the development of the not so privileged. Another scheme which is under consideration is the introduction of non-formal elements into the formal education system.

The Centre is also planning to start an experimental NFE Project in a rural setting to complement the innovative work being done in the Out-of-School Project in Santhome in an urban set-up.

[Courtesy : The Mail]

Library System for Higher Education

K. A. Issac*

The functions of a university or a college library are to help promote the objectives of higher education. Therefore in order to understand these functions, the objectives of higher education have to be defined. We have as clear and complete a statement of these objectives as possible in the report of the Kothari Commission which are reproduced below :

1. To seek and cultivate new knowledge, to engage vigorously and fearlessly in the pursuit of truth and to interpret old knowledge and beliefs in the light of new needs and discoveries ;
2. To provide the right kind of leadership in all walks of life, to identify the gifted youth and help them develop their potential to the full by cultivating physical fitness, developing the powers of the mind and cultivating right interests, attitudes and moral and intellectual values ;
3. To provide the society with competent men and women trained in agriculture, arts, medicine, science and technology and various other professions, who will also be cultured individuals imbued with a sense of social purpose ;
4. To strive to promote equality and social justice and to reduce social and cultural differences through diffusion of education ; and
5. To foster in the teachers and students, and through them in society in general, the attitudes and values needed for developing the good life in individuals and society.

Education, especially at the higher levels, has been described more as a process of learning than of teaching, signifying the self efforts to be put in by the student. It is the library that he has almost solely to depend on for this purpose. The university library has a prominent role to play in helping University education fulfil all the objectives just enumerated, but perhaps it is in respect of the first objective viz. the seeking and cultivation of knowledge that it is called upon to play the most significant role. Let me try to analyse how this is performed.

As a result of increased research activity all over the world, knowledge is expanding at a tremendous pace at the present time. The expansion is so great that we have coined the expression 'the explosion of knowledge' to refer to it which signifies a state of confusion resulting from it. The distance created by it between what we are apt to regard as the recent past and our present times makes it no exaggeration to say that a person living in the middle to the last century was nearer to ancient times than to the young men and women of our larger cities today. According to a report, nine out of every ten scientists who have ever lived, are alive today, eighty five out of every 100 prescriptions dispensed in a pharmacy today did not exist before World War II, more than half the energy used during the last one thousand years has been consumed during these seventyfive years of our present century, and half of the papers in the field of chemistry, and even more of physics, that have ever been written have appeared within the last fifty years. Out of these, at least a quarter already need to be revised as a result of new discovery.

These statements vividly indicate a measure of the tremendously accelerated growth of knowledge which necessitates response on the part of universities. It is estimated that in the course of 7 to 8 years the total quantity of available knowledge almost doubles itself. This great expansion of knowledge tends to place a heavy load on the curriculum which has to reflect in some measure at least the existing state of knowledge. The implication of this is that the present day student has to acquire a much larger quantum of knowledge than his brother or sister student some years ago. One of the problems of higher education today which apparently defies a solution is how best to enable the student to acquire this increased quantum of knowledge without extending the total period of higher education. This has rendered the traditional teaching methods and the total reliance of the students on classroom lectures obsolete. What is called for in this situation is the provision of facilities for self study by the students to a much larger extent than hitherto by the establishment of well-equipped libraries and their closer integration with the teaching programme. The only way to check the fall in the standard of education, it seems is to recognise this positive educational role of the library.

It was this important academic role of the library that was stressed by Sir Charles Grant Robertson, a former distinguished Vice-Chancellor of one of the modern universities of England when he said : "If I were a dictator, I would reduce the time devoted to lectures to a third of that usually occupied by them, and insist on the students spending three hours every day in the library".

The following portion quoted from the Radhakrishan Commission report aptly describes the place of the library in higher education :

"The library is the heart of all the University's work : directly so as regards its research work, and indirectly as regards its educational work. Scientific research needs a library as well as its laboratories while for humanistic research, the library is both the library and laboratory in one. Training in higher branches of learning and research is mainly a question of learning how to use the tools, and if the

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**Librarian, University of Kerala.*

library tools are not there, how can the student learn to use them. President Truman's Commission on higher education says: "The library is second only to the instructional staff in its importance for high quality instruction and research". "Both for humanistic and scientific studies a first class library is essential in a University".

Similary the Kothari Commission on Education in its report has further emphasised the importance of libraries in higher education. It asserts: "No University, College or Department should be set up without taking into account its library needs in terms of staff, books, journals, space, etc. Nothing could be more damaging to a growing Department than to neglect its library or to give it a low priority. On the contrary, the library should be an important centre of attraction on the College or University Campus."

The University Grants Committee of Great Britain has stated that the character and efficiency of a University may be gauged from its treatment of its library.

M.A. Gelfand in his book "University libraries for developing countries" states: "The fundamental role of the library is education. It should not be operated as a mere store house of books attached to a reading room, but as a dynamic instrument of education."

In the light of the points stressed above of the focal role of the library in higher education, it is needless to say that there should be an all out national effort to equip the University and College libraries adequately for discharging this role effectively.

Ever since the University Grants Commission began to be directly involved in the development of University Libraries, it has been possible to bring about significant improvement of these libraries both in respect of their book resources and organisation. The position today is that the University Libraries in the country are, by and large, in the process of being adequately equipped for lending effective support to the teaching and research programmes of the Universities. With the continued interest of the U.G.C. in this matter, and with adequate financial support based on realistic considerations like the ever increasing cost of books and journals and the need for the universities to expand their teaching and research activities, it will be possible to accelerate this trend and build up these libraries to the desired level of adequacy before long.

The position, however, with regard to the college libraries has left much to be desired. The library, as an effective instrument for the improvement of educational standards, will be able to make its presence felt by the student community and exert its wholesome influence on them only if library facilities in the college are improved and education is made more library centred than classroom centred. In our situation in which the large majority of the universities are of the affiliating type only those students studying in the colleges located in close proximity to the headquarters of the universities have access to the University Libraries. The students studying in the other colleges who perhaps constitute 80 to 90% of the total college student community have only their meagre college library sources to fall back upon. Therefore while the students of the universities and of the colleges located in and around the university headquarters are advantageously placed in the matter of library facilities, their counterparts in other places do not enjoy this advantage.

There are colleges in the country offering postgraduate courses where the students do not have access even to a select few of the most important journals in their respective areas of specialisation and are not even aware of them. The library plays little role in their academic preparation, and their education does not involve them in anything more than listening to the lectures and reading the lecture notes which are often dictated by the teachers. It is imperative in the interest of the maintenance of educational standards to pay increasing attention to the steps that are necessay to correct this situation.

The initiative taken by the U.G.C. in starting study centres under each university is to be welcomed in this context as a step in the right direction. However, the scope of these study centres and their number have to be enlarged considerably if they are to function in such a manner as to rectify the deficiencies in the college library situation today.

What is required to improve the situation seems to be to set up an academic library system under each university. The salient features of the system are indicated below:

Each university should set up branch libraries (study centres) at places where there is a concentration of colleges. Depending on the size of each university and the number of colleges affiliated to it each university should have 5 to 10 such study centres. Each study centre should have an area demarcated for it and the students of all the colleges in that area should have access to its facilities. While the students of the colleges located near each study centre can directly use it, the other colleges should enjoy the facilities of institutional loan of books from it. Each study centre should function as a service branch of the main University Library and the librarian and the staff of the centre should work under the direction of the University Librarian. The collection of each centre should consist of standard books and journals specially oriented to the needs of postgraduate and research students. There should also be an undergraduate section in each centre.

The rationale behind the setting up of such centres is that even with the best of efforts it will not be possible to make each college self sufficient in the matter of library facilities. The library fees collected from the students form the source of revenue for each college for building up its library. This is far from adequate to buy even the essential textbooks and is far less than what should be made available on the basis of the norms for library expenditure prescribed by the Radhakrishnan Commission and the Kothari Commission which are as shown below :

Radhakrishnan Commission	6¼ per cent of university budget or Rs. 40/- per student.
Kothari Commission	6.5 to 10 per cent of the educational budget depending on the stage of development of each university library or Rs. 25/- for each student registered and Rs. 300/- per teacher.

In Kerala, prior to the recent unification of fees in the private and Government colleges, the former were collecting library fee at the rate of Rs. 15/- per student which yielded a fairly sizable amount to be utilised for building up library stocks. However, after the unification of fees, this was reduced to Rs. 2/- to be on a par with the library fee collected in government colleges pending the determination of the norms for the annual library grant to be sanctioned by the Government for each college. These norms were announced recently and the details are given below

Pre-degree course in colleges other than Junior colleges offering only pre-degree course	Rs. 2/- per student
Degree courses	Rs. 4/- per student
Postgraduate courses	Rs. 8/- per student
Pre-degree courses in junior-colleges	Rs. 3/- per student

On the basis of the figures of student enrolment and the number of colleges for the year 1975-76, an analysis of the financial resources available to the colleges affiliated to the University of Kerala for building up their libraries has been prepared.

It may be seen that for 104 colleges including professional junior colleges affiliated to the University of Kerala with a total enrolment of 119, 123, the total annual library grant is Rs. 387,199. This means an average annual grant of Rs. 3,723/- per college and an expenditure of Rs. 3.25 per student. This bears no comparison at all to the standards recommended by the Radhakrishnan Commission in 1948 and the Kothari Commission in 1964 when the cost of books and journals was several folds less than what it is today. With such meagre financial resources it would be impossible to develop library facilities in colleges even to a semblance of adequacy. The position may not be very different in other states also. Even if the financial picture were better, a self-sufficient library for each college, in the context of its needs for more and more books and journals to support its expanding academic programmes on the one hand and the ever increasing cost of such materials on the other, would remain an unachievable goal. This situation inevitably points to the need for cooperative endeavours of the type proposed here.

This proposal does not mean that there should be no libraries attached to the colleges. Each college should have a library consisting of the basic reference books, textbooks and a few popular periodicals. For the more serious library requirements, the students will depend on the study centre in their area either by using the centre directly or by getting down books and journals on loan. Each centre should have a mobile unit for distribution of books on loan to the distant libraries

The financial support for the centres should come from the State Governments, the UGC and the participating colleges. A portion of the library fee collected from the students by each college in the area of each centre should be made available to the centre. It should be examined whether the library fee collected from students, wherever it is abnormally low now, cannot be suitably enhanced. The share to be contributed by each college should depend on the use that can be made of the book resources of the centre by the students of the college concerned. There should be a graded system of contribution based on the distance of each college from the centre. The colleges located far away from the centre will have to have more self sufficient libraries of their own than those located close to it and hence their share of contribution to the centre will relatively be less. It is thus a question of pooling the resources for the establishment of well-equipped and well organised libraries to which the students can have convenient access Each college, after making its contribution to the centre. should be left with sufficient funds to be utilised for building up its own basic library collection.

One snag in the present policy adopted by the UGC regarding the study centres is that there is a stipulation that each study centre should have rent-free accommodation in an affiliated college. This stipulation makes the study centre virtually a part of the college concerned, and the use of the study centre is practically denied to the students of other colleges. Therefore, it is necessary that each study centre should have its own independent site and building so that the students of all colleges can have uninhibited access to it. This would involve some capital expenditure.

The essence of this proposal is the consolidation, to the extent possible, of the limited financial resources and their utilisation for the establishment of a network of well-equipped and well run study centres which would effectively supplement the present meagre library facilities offered by the colleges to their students. The main university library, the study centres and the individual college libraries will constitute an academic library system for higher education within the jurisdiction of each university and they will be able to draw on the resources of

(*Continued on page 337*)

Need for Environmental Centres

G. M. Oza*

Do we really not feel that we owe an obligation to protect scientifically the plants, wildlife and the entire Nature throughout the country? Do we not realise, by now, that we have willfully neglected the conservation aspects in general and rational use of biotic and allied resources of the land and fresh waters, sea and air in particular for the lasting cultural and economic welfare of mankind? In the man-dominated biosphere, very few leading centres of learning in the country have contributed significantly to our present knowledge and voiced concern on the great diversity of problems on biological conservation. Therefore, in the opinion of the author it has absolutely become desirable for the Indian universities to aim at fostering autonomous Environmental Conservation Centres to engender vigorous scientific research to ensure our future.

The basic aim of such Centres should be to corelate their activities with the members of the society and thereby make them interested in involving themselves in their day-to-day life works. An excellent motive can be achieved if Centres enlist and highlight the manifold, sinful destructive activities of Man against Nature and how best the society can profitably react to it.

Every day we do witness the destruction of our forests and wildlife. At this rate, we are nearing a stage that by the end of the present century we shall not be fortunate enough to enjoy the benefits of virgin forests and that several rate and beautiful members of our fauna shall be on the verge of extinction. It is here such Centres can put a stop to the disruption of the environment.

Are we not competent to effect changes in the environment without destroying our important ecological habitats? Is our planning also rationally relevant in alleviating the sufferings of humanity without disrupting the environment? Unfortunately, our knowledge on the subject and the data available to us in this context are too limited. Even the methods to tackle with the problems on ecological conservation, we face, are imperfect. This does call for a methodical, systematic approach to our problems for the benefit of the society ; and, if the members of the society start digesting such aspects concerning Nature, we do have a hope for prosperous and healthier environment to dwell in.

The present note should receive serious consideration of the Indian universities that irrespective of the professional ambitions their students have, they must essentially undergo a grounding on ecological conservation to be in line with the problems and potentials of the present day world. The author pleads, this is certainly justified for it has sound relevance to mankind's varied problems. The subject can go a long way in educating our worthy citizens the solution of environmental crisis.

Can we deny that our excellent environment is deteriorating gradually in recent times? Have we competently derived the benefits from our natural resources? We have to endeavour to a great extent to solve our problems of population, hunger and water scarcity. These are all national issues with which environment and conservation issues are firmly linked. But unfortunately have we *at least one* such Centre in any of our 100 universities in the country, where the university baptizes the students even the elements of conservation course? How can we neglect to learn about our environment which is *multi-dimensional, directional* and *factorial*? Man's environment is related with aesthetic, economic, political and social aspects and more closely with chemical, physical and life sciences.

The author advocates, through the pages of this *Journal*, that we do have an urgent need for a multidisciplinary approach in the Indian universities especially for education on environmental problems we face today. When shall we realise that environment is not at all our enemy which needs to be won over? Do we rate it as our servant for exploitation? Can the treasure of air, land and water be possessed in an unlimited capacity?

We have our associateship in the world ecosystem. For a long period, we have devoured the fruits of such an associateship but we are not aware about the tremendous obligations we owe to such associateship. In Nature, we should have had total freedom. But the human population pressure and the advancement of science and technology have greatly added to the importance and complexity of our interrelationship within the world ecosystem. Can our national education policy planners contribute significantly to the need for 'environmental conservation centres in Indian universities?

**Lecturer, M. S. University of Baroda.*

Examination Business

V. S. Mathur*

The question of examination reform at the level of higher education seems very relevant in the present context. The question has assumed, during the years, such huge dimensions, that some desperate people have even started talking about abolishing the whole programme. That, however, might be rather an extreme step. In an area like education we cannot also afford to leave it to laises faire. There is, therefore, great need to make the system as worthwhile as possible mainly as a 'device' of education.

Examinations cannot be treated in isolation. They occupy a prominent position in the educational process. It, therefore, becomes natural that the various Commissions and Committees appointed after independence on education should have paid serious attention to the question of examination reform.

Some time back as a result of the recommendations of the Education Commission, the Government of India appointed a national Committee on examinations with the Union Education Minister as the Chairman. This Committee studied the question in depth and also issued a detailed questionnaire. The report of the Committee is a land mark in the field of education.

On the basis of the recommendations of this Committee, the University Grants Commission issued a Plan of Action which was circulated to all the universities. Twelve universities were, to start with, selected to experiment with the various suggestions. Many other universities have been taking action on their own through special committees and workshops.

The main suggestions in this regard are:

1. Semester System
2. Grades instead of marks
3. Internal assessment
4. Question Banks

In some universities like the Himachal Pradesh University, the semester system had already been introduced at the Postgraduate level in all faculties and the trimester system had been in vogue in the faculty of agriculture at the various levels. More and more universities are falling in line.

The main criticism against the award of marks or numerical scores are:—

(a) Exactness is not possible
(b) The element of subjectivity is predominant
(c) Whims of individual examiners sometimes play havoc.

It is claimed that grading according to 5,7, or 9 point scales as against 101 point scales in the marking system may be more reliable and may combat the above points to a great extent.

There is no reliable data about the utility of the garding system, except what is being done in some foreign universities as well as in some agricultural universities in the country.

The points which are usually mooted out against the grading system are:—

(a) The spirit of competition is likely to be killed.
(b) Some amount of subjectivity and uncertainity will always remain.
(c) In the actual practice marks will have to be turned into grades at least in the initial stages, which kills the very purpose behind grading.

Wherever grading is in vogue, the system is intimately linked up with continuous internal assessment meaning thereby that evaluation is conducted by those who also teach. It will be dangerous to grade a person only on the basis of a single external examination.

Internal assessment provides a useful policy of evaluation because it constitutes continuous assessment. However, experience shows that in our typical conditions where a large number of students and institutions are involved, the system cannot possibly work successfuly. However, if internal assessment is used only for eligibility purposes, in the first instance, it may provide a good beginning.

The main difficulty that is envisaged in this system is that the teachers might be subjected to a lot of pulls and pressures.

However, I feel that it may be a better idea if one or two good colleges in every state are taken away from the main stream and allowed to conduct experiments in internal assessment & grading, instead of a wholesale implementation of the programme.

Question Banks are a good idea provided the questions are set carefully by boards of paper-setters consisting mainly of class teachers. One or two subject experts may be appointed to guide the deliberations of the various subject Committees. The questions should be made available to the students and the teachers in the beginning of the Session/Semester.

The questions should be revised at least every two years if not every year. The revision may be based on the comments received from the teachers and on the exact performance of the candidates.

It may be worthwhile to take into consideration some other suggestions which have been made from time to time :

(a) Honour System be experimented with meaning thereby that examinations be conducted without any rigid supervision.

(b) Open book system be experimented with.

(c) Oral examination on the Russian pattern be made an integral part of the various examinations.

(d) The frequency of examination be substantially increased.

(e) Candidates be permitted to offer themselves for evaluation at their own pace after the minimum requirement. It should not be compulsory for a candidate to sit for all the papers at the same time.

(f) Candidates be required to pass in one subject only once. This will mean that the degree/diploma be awarded as soon as the candidate clears all the courses required for a certain examination.

(*Contd. on page* 337)

Head, School of Education, Himachal Pradesh University

New Pattern of Education in the context of National Policy

Excerpts from the convocation address delivered by Dr. P. C. Chunder, Union Education Minister, at Nagpur University

It is a curious fact of history that the country always had a uniform pattern of higher education since 1859 when the first matriculation examination was held. The pattern may be described as follows : (1) The access to higher education was provided by the matriculation examination, which was the first public examination to be held at the end of the school stage. The standards to be attained at this examination were broadly comparable and the equivalence of the examination itself was recognised throughout the country and by the Central and State Governments ; (2) The duration of higher education leading to the first degree was four years ; and this was divided into two stages—the intermediate stage of two years and the undergraduate stage of two years ; and (3) The standards to be attained at the intermediate and first degree stage were again broadly comparable and the equivalence of the examination itself was accepted throughout the country and by the Central and State Governments.

This pattern of education remained unchanged till 1952. The Secondary Education Commission (1952) supported the view that the education and pattern, not only of higher education, but of school education as well should be uniform throughout the country and that every child should be eligible to get the first degree after a school and college education of equal duration. On the basis of its recommendations, it was decided to introduce the following uniform pattern of school and college classes (11+3).

1. The school stage should consist of eight years of elementary education and three years of secondary education (eleven years in all) and that diversified secondary education with seven optional streams should begin in class IX (or roughly at the age of 13 or 14 for the child) ;
2. The matriculation examination (which was in existence from 1859) should be abolished and replaced by the higher secondary examination at the end of eleven years of schooling ; and
3. The duration of higher education for the first degree should be three years.

This reform created so much of trouble and so many problems. The matriculation examination should not have been abolished. It was equally wrong to break up the intermediate stage which smoothened the transition from school to university and helped to improve standards. It was also not desirable to begin 'streaming' in secondary education in class IX so that each child was required to decide his future career at the early age of 13 or 14. Consequently there was considerable opposition to the reform which never got fully accepted. It was only in Delhi and Madhya Pradesh that the new pattern was fully adopted. In other areas the matriculation continued to be held either by itself or side by side with the higher secondary examination at the end class X. Several States like Bombay or Madras refused to adopt the higher secondary pattern. Uttar Pradesh refused to break up the intermediate stage in two ; and inspite of all the expense, trouble and dislocation caused by this proposal, the time taken for the first degree continued to vary from 14 to 16 years as in the past. In fact, this attempt to create a uniform pattern of school and college classes was a total failure. It could not create a uniform pattern for school education. It destroyed the uniform pattern of higher education which the country had since 1859 and what is even worse, it created an unprecedented diversity of patterns in the country.

It was at this stage that the whole situation was re-examined by the Education Commission (1964-66). Subject to certain general principles the Education Commission recommended the adoption of the following pattern of school and college classes :

1. The matriculation examination should be continued (or revised) and held at the end of ten years of school education ;
2. There should be a diversified higher secondary stage of two years which, on the one hand, would provide access to university and would qualify, on the other hand, about half of the students to enter the world of work. This will need the addition of one year where the first degree course started after eleven years (instead of twelve). This reform may be carried out in a phased programme of about twenty years ; and
3. The duration of the first degree stage should be continued undisturbed.

While adopting these proposals, which found general support, debate centred round two main issues :

1. What should be the status and location of the higher secondary or intermediate stage?
2. Should we raise the time required to take the first degree compulsory to 15 years even in those States where it can at present be taken in 14 years?

On the first issue, there was total agreement that the higher secondary or intermediate stage should be recreated and treated as a school stage outside the purview of the universities. But opinion was divided as to whether the higher secondary or intermediate classes should be in schools only, or in colleges only, or even in separate institutions called intermediate colleges.

On the second issue, the general opinion was that ultimately we should move in the direction of 15-years period for degree and that the States where the degree is now being given in 14 years should be allowed some time to reach this goal.

The decision finally taken and incorporated in the National Policy Resolution of 1968 was as follows :

> "**The Educational Structure** :
>
> It will be advantageous to have a broadly uniform educational structure in all parts of the country. The ultimate objective should be to adopt the 10+2+3 pattern, the higher secondary stage of two years being located in schools, colleges or both according to local conditions."

In this context, the Central Advisory Board of Education has recommended that a pass degree may be permitted at the end of a two-year course. But students who do the pass degree will have to put in an additional year for the honours degree (preferably by private study or correspondence course) to qualify for admission to M.A. This reform has now been under implementation for about ten years. It has been fully implemented in the States of Kerala, Karnataka and Andhra Pradesh and in the Union Territory of Lakshadweep in the sense that students have already completed the first degree course under the new pattern. It has been initiated and is at various stages of progress in the States of Assam, Maharashtra, Gujarat, J & K, Sikkim, Tripura, West Bengal and Tamil Nadu and in the Union Territories of Delhi, Goa, Daman and Diu, Dadra and Nagar Haveli, Andaman & Nicobar Islands, Pondicherry, Arunrchal Pradesh and Chandigarh. In the remaining States and Union Territories, either decisions have not been taken or if taken, the implementation is yet to begin.

The matriculation examination should be held at the end of ten years of school education and that it should have broadly comparable standards and equivalence in all parts of the country. There should be eight years universal elementary education for all children and the first two years of secondary education will be undifferentiated although it may have optional subjects. The student should not be required to decide his future career till he completes class X or reaches the age of about 16.

It is extremely important that the next stage—intermediate or higher secondary—should be of two years and that it should have the two-fold objective of preparing the student for the university as well as for entry into the world of work and that the latter objective should have a prior claim. This stage should be outside the purview of the universities but for administrative considerations it may be located, at least to begin with, in schools, colleges or both.

A State which so desires should be allowed to retain a two-year course for the first degree which may be called the pass degree. There may be an honours course of one year after this degree or a three-year integrated honours course after the intermediate or higher secondary stage. In all these matters the State Governments should be free to determine the policies. The country should move in the direction of adopting, over the years, a broadly uniform pattern of 10+2+3 for school and college classes, fairly comparable standards being reached at the end of class X and class XII and the first degree.

But the worst aspects of the implementation of the recommendations of the Education Commission are those that relate to content or curriculum. In the name of raising of standards, the curricula are being increased and made bigger than ever. The number of compulsory subjects taught has increased. The content of each subject has been enlarged. There are more textbooks than ever before ; and each textbook is bigger than all its predecessors. The whole programme is based on the concept of the banking system education i.e. education whose objective is to deposit as much information as possible in the mind of the child which is assumed to be a vacuum of infinite capacity. The programme also ignores the large variety and plurality of this country where education, to be meaningful, has to be closely related to the local environment. This attempt at creating little memory machines out of all our children is wrong, educationally, psychologically and socially. We are burdening young children beyoud their capacity and almost to the point of cruelty. We are also increasing the physical load they have to carry, the cost to parents and probably misusing scarce paper which can be put to several alternative uses. We are over emphasizing the imparting of information which is only one and a minor objective of education. Let us not forget that mere information does not necessarily lead to knowledge and even less so, to wisdom. Let us also not forget that there are other and more important objectives of education which we are ignoring and that this policy of ours has been increasing cramming and rote memorization and that it does not leave adequate time for several other important programmes like development of independent or creative thinking, games and sports, work-experience or social service. To remedy this sorry state of affairs the following broad lines are suggested :

1. The entire curriculum proposed by the NCERT for class I to X should be reviewed and a definite attempt made to reduce the number of subjects and the load of content under each subject. This attempt is to be done partly to reduce the overall crushing load of book-learning on children but partly to find adequate time for such programmes as work-experience, games and sports, community or national service, and development of creative thinking.

2. While broad guidelines will be laid down by the Centre regarding (i) comparable achievements to be reached at a few given point. Such as the end of class X, class XII, and the first degree course (ii) certain things which ought to be included, e.g., teaching of science or (iii) certain things which should not be done (i.e. anything that harms national integration), a very large and real freedom would be left to the State Governments to decide the curricula to suit local needs, conditions and traditions. In fact, even State is too large and too diverse a unit and we should see that the responsibility for framing the curriculum is more and more decentralised and the school studies are related, as closely as possible, to the physical and social environment in which the students live. The NCERT would be requested to work on the basis of these guidelines without any delay.

3. The policy regarding the +2 stage also needs a review. There will have to be a greater emphasis on work-experience and vocationalisation, with proper bridges between the different courses that may be offered. Steps will also have to be taken to ensure vertical mobility in the vocational courses at this stage. All available resources will have to be fully utilised for the development of vocational courses. The States will also have to be advised and assisted to prepare and implement careful plans for the location of this stage and for its eventual transfer to the school. The preparation and training of teachers for this stage, both on the academic and vocational sides, will need attention on a priority' basis. All these problems will be taken up for consideration and follow up action with the State Governments.

4. At the university stage, a good deal of attention will have to be paid to the planning and organisation of pass and honours courses for the first degree and of the courses for the second degree. Faculty development will need the highest attention and the emphasis throughout will have to be on the improvement of standards, on making higher education meaningful and relevant, and on the intensive use of available time and facilities. When the reorganisation of the courses is complete the MA or MSc degree will reach the same levels as the MPhil degree so that the duration of higher education is reduced from the present seven to five only. The UGC has been asked to take action on these lines and especially in view of constitutional responsibility of the Centre for coordination and maintenance of standards.

This policy on the common pattern of school and college classes is based on some important overall considerations which were laid down by the Education Commission itself but which unfortunately seem to have been ignored. These will be the basis of all our policies in this regard. These are : (1) The broad pattern of education in the country is still in the nature of an exotic plant. Changes should be introduced on the basis of our own indigenous thinking after taking into account what is happening outside without being dominated by it ; (2) While the basic objective of the reform is to raise standards, let us not forget that the structure, which may be regarded as the skeleton of the educational system is of the least importance. Standards will depend essentially on the intensive use of available facilities and creating a climate of hard and dedicated work by teachers and students. This attempt should be, not so much to increase time as to learn more in less time. There should be liberal facilities for students who work hard to complete a course in a shorter time and we should not increase duration unless we are fully satisfied that all available time has been fully and intensively used ; (3) The curricular reform which aims at raising standards should not only mean giving more information. Its basic objective should be to extend the principles of basic education to all stages and to emphasize them adequately. If improved standards do not mean closer relationship with productivity, greater indentification with the people, development of creativity, capacity to think independently, improved problem-solving ability, or better health and greater skill in games and sports, they are not worth the trouble ; (4) The concern for the pattern should not make us distort our priorities and sidetrack the fundamental issues in educational reform such as provision of universal elementary education, liquidation of illiteracy, equalisation of educational opportunities and transforming the educational system to become a powerful instrument of socio-economic transformation ; (5) Indian culture is essentially one of unity in diversity. The States provide the diversity and the richness which is important and for which we should give them the necessary freedom. But the Centre has to provide the unity which is equally essential ; and it should do so, not by dictatorial fiats but by working together, by evolving a federal partnership, and by providing a stimulating rather than a coercive leadership.

Correspondence courses at Bombay

The University of Bombay has instituted Diploma in Financial Management and Diploma in Operational Research for management by correspondence. Students will also be enrolled for Diploma in Higher Education on part-time basis. The Directorate of Correspondence Courses will also register students for MA and M.Com examinations as external candidates without any correspondence tuition. The university will also provide correspondence course for Intermediate Arts, B.A. Part I and II and B.Com. Part I and II for the year 1977-78

Increased intake for professional courses

(From our Special Correspondent)

The students' organisation in Poona gheraoed Mr. V. R. Patil, the Chief Minister of Maharashtra and made the government agree to double the medical and engineering seats in the State from this academic year. The Chief Minister told the students that he had already written to the Central authorities for permission to increase the seats.

The students contention was that the number of applicants for these seats this year have doubled because of the two streams of students—one from first year university course (intermediate or pre-university course) and the other from the second year of the new +2 (called 12th standard or second year junior college).

Yet the feeling behind such demands for increasing the number of medical and engineering seats is a fear that many deserving candidates in both streams cannot get admission because both cut into what each one believes to be its preserve. There is a genuine difficulty in satisfactorily dividing the seats between the streams. The State Government first thought of holding an entrance examination with a common syllabus especially drawn for it and instructed all the universities in the State to hold this entrance test. The test dates were also fixed. The competition involved in such an entrance test was opposed by various sections, on the ground that it would be unequal and unfair. The very reliability of a written examination was also questioned. The Government, with a change of the Chief Minister, later scrapped the idea and decided to set apart seats in medical and engineering colleges for both streams, in proportion to the number of candidates who appeared at their respective qualifying examinations. Even this is opposed by some who say that the fairest way is to go by the results at the 12th standard examination or at the first year university examination whether it is pre-university or intermediate test, to arrive at the ratio of seats for each section.

The +2 stage also embarrassed the government in many ways. It took a long time to decide whether the +2 should be with the secondary school or with the university. Initially the Government was in favour of giving it to higher secondary school so that it would remain cheaper for students and parents. When the 11th standard was introduced in June 1975 more than 1200 schools in the State were allowed to open it and these schools were financed by the Government to open laboratories. But this year the government decided to allow the schools to keep the 11th standard only if they would open the 12th standard In 1976 it allowed the colloges to open the 12th standard and this year the 11th standard also.

Now higher secondary school face stiff competition from colleges and prefer to bow out. Many schools have decided to close down their 11th standard for various reasons. The main reason is that the college will attract more students because of the facilities and glamour. While opening the 12th standard to meet the governmental condition, the schools have to find more classrooms, more staff and facilities. Good teachers will not be available for want of higher salaries, better amenties and promotion chances. Only schools in areas not served by any college will get adequate number of stndents to make the higher secondary section viable.

The introduction of +2 in higher secondary schools resulted in the retrenchment of many college teachers in the last two years. Now the schools closing down their 11th standard will retrench many teachers and this step will be an issue in the coming months.

The continuance of the 11-year schooling in the state has also created anomalies. A few colleges in some parts of the state are allowed to run the intermediate or pre-university course for those who complete their 11-year schooling. This section being very affluent is very vocal in its demands such as more seats in medical and engineering colleges. Those who have completed their 11-year education in elite schools have already started complaining about the non-availability of their first-year university course in the nearest college.

There is also uncertainity as to who should hold the +2 examinations. In a belated decision, the schools were asked to hold the 11th standard examination. The Board of Higher Secondary Education held the first 12th standard examination in March 1977, after the government kept schools and parents in prolonged suspense. Now the government has not made it clear whether the future 11th and the 12th standard examinations will be held by the board or schools, or colleges or universities. But people guess that the government will not let go the income from 12th standard examination now being held by the Board. The government is not likely to scrap the Board and surrender everything to universities.

While the uniform pattern was formulated, it was intended to have a higher academic content and various reform-oriented syllabi were adopted. But many good courses are just not available in schools or colleges at the +2 stage.

Problems of professional courses in Karnataka

(From our Special Correspondent)

The intake of students to engineering colleges in Karnataka has been rationalised. Based on the recommendations of an expert committee appointed by the State Government, the intake to 15 engineering colleges, affiliated to Bangalore, Mysore and Karnatak Universities, in the coming academic year has been fixed at 2,581.

The University Visvesvariah College of Engineering in Bangalore gets the biggest quota of 335. Two colleges, one at Suratkal and the other at Manipal, both in South Kanara district and affiliated to Mysore University, have been allowed to take 250 students each. The quota for three colleges in Bangalore and one at Tumkur, 60 km from Bangalore, all run privately and affiliated to Bangalore University, has been fixed at 180 each. The remaining colleges at Mysore, Hubli, Hassan, Davangere, Mandya, Bagalkot and Gulbarga will admit 132 students each.

Ten per cent of the sanctioned intake for each course is, however, reserved for "repeaters" who have to attend classes in order to take the examination. This intake excludes those taking part-time evening courses and condensed course (day-time).

A 10-member committee headed by Dr. K. A. V. Pandalai, Director, Indian Institute of Technology, Madras, and including, among others, Professor T. R. Doss, retired Vice-Chancellor of Jawaharlal Nehru Technological University, Hyderabad, was asked by the Karnataka Government to go into the question of intake of students to engineering colleges since an unplanned expansion in admissions in the past had an undesirable effect on the quality of education. For example, in the academic year 1975-76, 2,924 students were admitted to the 15 colleges while last year the number rose to 3,022.

Except for the Siddaganga Institute of Technology at Tumkur, all the colleges appear to be satisfied with the quota allotted to them. The institute has represented to the State's Minister for University Education to increase its quota of 180 as it feels it is not commensurate with its five faculties.

The Jawaharlal Nehru Medical College at Belgaum, run by the Karnatak Liberal Education Society and affiliated to Karnatak University finds itself in a spot. The State Government has withdrawn the quota of 75 seats allotted to it for the coming academic session for violating its order on the collection of capitation fee and admission of candidates.

Some time ago the Government issued a show-cause notice to the KLE Society running the college on grounds of irregularities and malpractices in admission of students and collecting exorbitant capitation fee, as much as Rs. 75,000 per seat. The charges, among others are that the college management admitted 81 students last time against the quota of 75, some of them not even going through the qualifying examinations, and collected Rs. 11 lakhs as "black capitation fee" without issuing receipts. Capitation fee authorised by the Government is Rs. 5,000 for students from the State and Rs. 35,000 for those coming from outside.

The President of the KLE Society and the Dean of the college have justified the admission of 81 candidates on the ground that the selections were made before the issue of the Government Order on December 30, 1976. The State's Health Minister, however, asserts that, according to records, the interviews were held only three months ago. The Minister has warned the Society that if it persists in the selection of candidates for admission to the coming academic year, the Government will not hesitate to withdraw the clinical and other facilities to these candidates. However, if the Society abides by the Government directions, the quota would be restored.

Karnatak University is concerned over the State Government's reported decision to take over admissions to postgraduate medical courses from the purview of the university. The university, which runs the Postgraduate Medical Centre at the Karnatak Medical College, Hubli is reported to have told the Government that it is prepared to close down this centre if the decision is enforced.

Running of postgraduate courses, the University authorities feel strongly, is their prerogative. Regulating admissions and laying down criteria are integral to the postgraduate system and these cannot be handed over to another agency.

Karnatak University admits nearly 100 students every year for 16 degree and diploma postgraduate medical courses.

The University authorities have made it clear to the Government that if the postgraduate courses are discontinued, it (Government) will have to start from scratch in seeking affiliation from the Medical Council of India.

Personal

1. Dr. B.R Bhonsle has been appointed Vice-Chancellor of Marathwada University.
2. Dr. D.P. Singh has taken over as Vice-Chancellor of Haryana Agricultural University.
3. Prof. Ram Joshi has taken over as Vice-Chancellor of University of Bombay.
4. Prof. K. Satchidananda Moorthy, Vice-Chancellor of Sri Venkateswara University has been invited to participate in the World Conference of Religious Workers to be held in Moscow.
5. Prof. Probodh Chandra Sen has been made the Emeritus Professor of Visva-Bharati. This honour is in token of recognition for his works and contribution to Bengali language and literature.

Population environment workshop

A two-day workshop on population and environment was held at the Regional Labour Institute, Adyar, Madras under the auspices of the Indian Youth Population Coalition. The Department of Environmental Hygiene, Government of Tamil Nadu, the National Environmental Engineering Research Institute and the Regional Labour Institute, Ministry of Labour, Government of India collaborated with IYPC in organising the workshop. The M.S. University of Baroda was represented by Prof. C. H. Pathak, Dr. S. D. Sabnis and Mr. Kamlesh Lulla.

The Indian Youth Population Coalition was founded in 1974 at the time of the world population year. It aims at bringing together youth and student groups working on population and development issues. It works to facilitate the participation of youth and youth organisations in popular programmes and coordinate their activities with the governmental and non-governmental agencies, conduct research and evaluation of activities in the spheres of population, employment, education, social change and development and economic problems. The IYPC felt that the population problem is a multifaceted one and demands a comprehensive approach which sees the problems of illiteracy, malnutrition, disease, unemployment and inequality in their proper perspective as manifestations of the population issue. Environmental degradation resulting in increasing ecological imbalances is one of the ways in which the population manifests itself.

The workshop on population and environment was intended to create a proper awareness of the problem as a pre-requisite to appropriate action. The focus of the workshop centred around the causes of environmental degradation in India, air, water and noise pollution, environment and health, conservation of natural resources, the legislative approach to solving environmental problems, metropolitan growth management, energy and environment, the role of women and youth in the environmental movement and the new international economic order and the environment.

Nehru fellowships announced

The Jawaharlal Nehru Memorial Fund has announced the Nehru Fellowships awards to Mr. Amrit Rai of Allahabad and Dr. Sivraj Ramaseshan of Bangalore.

Mr. Amrit Rai is a distinguished Hindi novelist and short story writer. He has several publications to his credit including novels, collections of short stories and belle-letters, plays, books of literary criticism and many translations from English, Urdu and Bengali. Mr. Rai is also a recipient of Sahitya Akademi award.

Dr. Sivraj Ramaseshan has specialised in the areas of, crystal optics, anomalous scattering of X-rays and neutrons, low temperature crystallography. He started his research carrer under late Prof. C.V. Raman at the Indian Institute of Science, Bangalore. He is also a recipient of the Bhatnagar Memorial Award. At present he is the Head of the Materials Science Division, National Aeronautical Laboratory, Bangalore.

Mr. Rai's subject of study during the two years of the fellowship will be a research into the origin and development of Hindustani and an investigation into the causes of its retardation and bifurcation which will involve a study in the social dynamics of the origin and development of the Hindustani language. The subject is one of great contemporary relevance in the perspective of both national integration and secularism. The study will have a bearing on the vexed Hindi-Urdu problem which in turn has a bearing on the question of a simple and easily comprehensible state language.

Dr. Ramaseshan will work on the life and work of Prof. Sir C. V. Raman. His study will cover the biographical aspects of Prof. Raman's life, his scientific works including preparation of a bibliography and analysis of important aspects that emerged from Prof. Raman's work and also his impact on Indian science.

The Fund has so far awarded fiftyone fellowships, each carrying a monthly stipend of Rs. 3,000 and an annual grant of Rs. 10,000 towards secretarial assistance, travel and contingencies.

U.G.C. career awards for scientists

The University Grants Commision has approved a scheme of three-year career awards to promising young scientists to enable them to devote themselves wholeheartedly to research and study. The awards will be open to lecturers and readers who are below 35 years of age and have completed post-doctoral or equivalent professional training in their areas of study. The awardee will get full salary and allowances and earn normal increments and maintain seniority during this period. The Commission will provide each awardee research grant up to Rs. one lakh. The teachers selected for the award can carry out their research and study in their own institutions or in any other approved institutions within the country. During the period of the award however they will not be allowed to leave the country without permission and that too for a maximum period of six months. The total number of awards at any time will not exceed fifty. The selection will be made by the Commission on the recommendations of the Standing Committee constituted for this purpose.

LIBRARY

New degree/diploma courses

The Calcutta University has introduced diploma and certificate courses in Indian languages for foreigners. They include Hindi, Bengali, Urdu, Arabic and Persian. The grading system would be introduced in the Political Science Department. Radio Physics and Master's in Management courses. The university is also planning to institute MD course in Forensic Medicine.

With effect from May 1977 the Indian Institute of Social Welfare and Business Management has introduced a certificate course in social work and labour welfare. A specialised course in personnel management is also under study.

The introduction of two-year pastgraduate course in business administration has to some extent antagonised the diploma students. They complain that this step is likely to reduce their job opportunities and simultaneously enhance the competition in the industrial sector. The authorities of the Institute of Social Welfare and Business Management are not much concerned over the situation. A recent all-India study in Management undertaken on regional basis merely indicated that a diploma course cater to the needs of students already in service. This principle has been adhered to with the argument that their services can be properly utilised in respective universities. With the advent of the five-year plan and industrial growth there was an urgent need to step up the number of management trained personnel. To meet this demand, courses for freshers were opened up all over the country. The Indian Institute of Management was set up with the purpose of imparting education in management studies. As regards the professional studies the syllabi for both diploma and certificate courses were the same so that training was more or less was also the same.

INDIAN SCHOOL OF MINES
DHANBAD-826004

No. 615007/77 **10th June 1977**

Admission to Post-graduate Programmes—1977/78

Applications are invited from candidates possessing the requisite qualifications for admission to the following postgraduate programmes being conducted (or likely to be conducted) at the Indian School of Mines, which is a deemed university under the University Grants Commission Act :

	Programme	Department
I.	Two-year Industry-Oriented MTech Programme in Mining (Specialisations offered : Coal Mining/Metalliferous Mining/Mine Planning and Design/Rock Mechanics/Mine Environment/Design of Blasts/Mine Safety Engineering)	Dept of Mining Engg
*IA.	Three-year part-time MTech Programme in Mining (The course structure is similar to that of Programme VII)	Dept of Mining Engg
II.	Two-year Industry-Oriented M Tech Progaamme in Opencast Mining	Dept of Mining Engg
III.	One-year M.Sc. (Tech) Programme in Mineral Exploration	Dept of Applied Geology
IV.	One-year M.Sc. (Tech) Programme in Mining Geophysics	Dept of Applied Geophysics
V.	One-year Industry-Oriented DISM Programme in Mineral Engineering (Candidates desirous of working for M Tech degree would be required to spend an additional year on project work)	Deptt of Chemistry, Fuels and Metallurgy
*VI.	DISM/MTech Programme in Industrial Management (This course consists of three terms of course work each of 12 week duration. A student succcessfully completing **any one** of the three terms course would be awarded the Postgraduate certificate of CISM. A student completing any **two terms** with additional guided project work of 4-month duration would be awarded the Postgraduate Diploma of DISM, while one completing all the **three terms** with guided research work for **one year** would be awarded the M.Tech. degree in Industrial Management)	Deptt of Industrial Engg and Management
VII.	Three-year Part-time MTech Programme in Mining Machinery (In this Programme, the first two years are devoted to course work, and the third year to a project/dissertation. For course work, students attend evening classes, on four days per week).	Dept of Engg & Mining Machinery

*Note:—Programme Nos. IA and VI are new ones, likely to be started this year.

2. Eligibility requirements for the different programmes are given below:

I/IA **MTech Programme in Mining** : A degree or equivalent in Mining Engg.

II. **MTech Programme in Opencast Mining**: A degree or equivalent in Mining, Civil, Electrical or Mechanical Engg, or MSc degree in Applied Geology.

III. **MSc (Tech) Programme in Mineral Exploration** : MSc or equivalent degree in Geology or Applied Geology. Preference will be given to candidates holding qualifications in Applied Geology.

IV. **MSc (Tech) Programme in Mining Geophysics** : MSc or equivalent degree in Geophysics or Applied Geophysics.

V. **DISM/MTech Programme in Mineral Engineering :** A degree of equivalent in Mining, Electrical, Mechanical, Metallurgical or Chemical Engg or M Sc in Chemistry or Applied Geology.

VI. **DIS/M MTech Programme in Industrial Management** :A degree or equivalent in any discipline of Engg with at least 6 months training in Industry.

VII. **M Tech Programme in Mining Machinery** : A degree or equivalent in Electrical or Mechanical Engg.

In each case, the candidate should have obtained at least 60% marks in the qualifying examination relaxable to 50% for sponsored candidates and for those with field/research experience or special aptitude for research.

3. Preference will be given to sponsored candidates. (Sponsorship in this context means retention of lien on post and grant of suitable allowance).

Applications of sponsored candidates should carry suitable endorsement by the employer.

4. **Scholarships** : Unsponsored MTech students are eligible for a scholarship @Rs. 500/- p.m. and unsponsored MSc (Tech)/DISM students @ Rs. 400/- p.m.

5. **Procedure for applying** : Applications are obtainable from Registrar, Indian School of Mines, Dhanbad—826004 on sending a self-addressed envelope carrying postage stamps of the value of Rs. 2.65 superscribed 'P.G. ADMISSION'.

6. **Closing date** : Completed applications together with (i) mark-sheets relating to the final as well as the penultimate year examination of the qualifying examination, and (ii) documentary evidence of practical experience (where required) should reach the undersigned by **9th July, 1977.**

For further details of each programme, the concerned Head of the Department may be contacted.

S. K. BORDIA
REGISTRAR

New medical courses in Andhra Pradesh

The two medical colleges, Rangaraya Medical College, Kakinada and Kakatiya Medical College, Warangal would be soon having postgraduate degree and diploma courses in all pre-clinical, para clinical and basic clinical subjects like medicine, surgery, gynaecology, ophthalmology and otorhinolaryngology.

New courses will also be started in other medical colleges. The Deans of Faculties of Medicine of all the five universities in the State met Dr. L. Suryanarayana, Additional Director of Medical Services and emphasised the urgent necessity and need for these postgraduate courses in medical faculties. At this meeting the rules for admission for the postgraduate courses were also discussed.

In the Osmania University Medical Colleges M.D. courses are to be started in venereology, tuberculosis and paediatric surgery. The Andhra Medical College, Visakhapatnam will offer M.D. in social and preventive medicine and M.D. in tuberculosis and chest diseases.

Postgraduate courses in orthopaedics, paediatrics, anaesthesia and diploma in forensic medicine will be started in Kurnool Medical College. The Sri Venkateswara Medical College, Tirupati will offer M.S in orthopaedics, diploma in medical radiology and diploma in tuberculosis and chest diseases.

The admission rules are likely to be uniform in all the eight medical colleges of the state and the selection is to be made on merit. D.M. course in cardiology in the Nizam's Institute of Advanced Medical Specialities may also be started- But it was thought that this course be initiated after proper preparations.

Annamalai VC honoured

Dr. S Chandrasekhar, Vice-Chancellor of Annamalai University was awarded the Bicentennial Gold Medal by Population Dynamics of Seattle, Washington and the Sunnen Foundation of St Louis, Missouri. The award citation said that Dr. Chandrasekhar was India's Minister for Health and Family Planning from 1967-70 and a prolific writer of books and countless articles on Asian population problems. An eloquent and tireless speaker to audiences in more than 100 countries, he has brought population awareness to the public as has no other demographer. The medal was awarded in recognition of his scholarship, his contagious energy and the magnitude of his solutions which are commensurate with the problem. The medal was awarded at a ceremony preceding his presentation of the 1977 Dillingham Lecture at the East-West Centre in Honolulu.

Sports tribunal to be set up

The Indian Olympic Association is planning to devise a formula by which a tribunal would consider all disputes relating to sports organisations in the country. The Association would request the Union Government for enacting such a legislation.

The proposal has been mooted in view of the continuing stalement in many national and sports organations which have been rendered *hors de combat* due to litigation and have contributed to lowering the standards in the field of sports. It is proposed that the tribunal be set up under an Act of Parliament and should be authorised to deal with all matters connected with sports and sports organisations in the country. The question of India's participation in the commonwealth games in Edmonton in September next year and the asian games in Bangkok are also likely to be discussed at the annual meeting of the Association to be held in July this year.

Need for lead colleges

Prof, B. Ramachandra Rao, Vice-Chairman, University Grants Commission recently inaugurated a three-day southern regional conference on college science improvement programme at Mysore. The conference was organised by the Mysore University Postgraduate Department of Physics. Prof. Rao in his addresss suggested that there should be lead colleges in the country to initiate innovation programmes. It was high time that the university seriously thought of giving autonomy to few selected good colleges.

Prof. Rao also analysed the problems facing the science education in the country. The obsolete curriculum and the syllabus, inadequate laboratory facilities, low-standard textbooks, non-availability of teaching aids, out-moded examination system laying stress on memory, lack of selective admissions, regional imbalances and neglect of weaker section were some of the major problems which needed urgent attention.

During the last two decades the pressure on examinations was so much that it led to lot of malpractices. This could be gradually eliminated by such methods as internal assessment, question banking system. He revealed that the Commission was taking steps to strengthen the science improvement programmes to postgraduate courses also. He stressed the importance of restructuring science courses as early as possible. There was also need for reorientation courses. Prof. Rao regretted that laboratory instructions have not improved over the years. It was easier to change curriculum and syllabus but the apparatus remained the same. He appealed to teachers in the Universities to realise their duties and responsibilities and to improve the teaching programmes and methodology.

Mr. D. V. Urs, Vice-Chancellor of Mysore University referred to Prof. Rao's plea for giving autonomy to a few selected colleges. He emphasised that the autonomy once granted should be well preserved.

Excavation plans for Garhwal

The University of Garhwal has prepared an elaborate plan to unearth the remains of an ancient habitation at Ranihat across the Alaknanda. The preliminary work done so far has revealed that the history of this region is about 500 years older than the Christian era. Dr. N.P. Nautiyal, Head of the Department of Ancient History, Culture and Archaeology, Garhwal University, has already discovered the remains of three different periods dating from the sixth century BC to eighth century A.D. From the excavations it is clear that the people of this period knew the art of smelting copper and iron as is indicated by such finds as iron and copper slags, arrow-heads, fish-books and needles. Considerable amount of charcoal and brunt bones found during the excavations leads to the conclusion that the early inhabitants were meat-eaters. No idea of housing plans has been possible since diggings have been carried out in a very small area.

Conventional fed ware of different shapes found in the second layer compares well with the pottery types found in the Gangetic plains. The main pottery, however, is degenerated black ware with a very high gloss. A brick floor 1.5 metre square with a heart full of coal and ash flanked on one side by a brick wall shows that the people of the period used bricks for building houses. Though the size of most of the bricks is standard Mauryan, some are wedge-shaped also suggesting construction of some sort of a circular structure. The foundations of the walls are well laid pebbles and stone rubble. Chisels, spearheads, a knife with bone handle terracottas wheel-discs and decorative spouts have been found in one layer. Structures made of stones and bricks suggest that it may be as old as the second century BC. It appears that the site was abandoned at the beginning of the Christian era and was reoccupied only about the eigth century AD. The pottery of this period is characterised by knife-edged bowls. The houses were built of dressed-stones as are found in the tenth century temple at Ranihat. Based on these preliminary report a detailed plan is being worked out by the University to be submitted to the Archaeological Survey of India for necessary financial assistance.

Economic survey of Garhwal resources

A techno-economic survey of the Tehri Garhwal is being carried out by Lucknow University's Centre for Research and Training in Rural Administration. The report is expected be ready by August next. On the basis of the data collected by the Centre the U.P. Government proposes to prepare a ten-year perspective plan for economic development of the district. The survey will, among other things, cover the district's natural endowments and its potentiality for development, constraints of available resources, problems of operation and attitude of people. It will identify causes of disparities in incomes and specific problems in different sectors of economy. An important aspect of the survey is the preparation of a comprehensive inventory of resources and assessment of the existing level of development as also of potential for growth of agriculture, horticulture, forestry, animal husbandry, plsciculture, irrigation, power, mining, industries, transport communication, tourism and social and utility services.

The survey report will also include an analysis of the prevailing socio-economic set up in the district and employment position besides availability of institutional and other infra-structural facilities. The Central Government will also be involved in the survey since Tehri Garhwal has been included in its integrated rural development project.

THESES OF THE MONTH

A list of Doctrol Theses Accepted by Indian Universities

PHYSICAL SCIENCES

Mathematics

1. Dwivedi, Jagdish Pd. Study of stress distribution on an isotropic sphere developing penny shaped crack. Bhopal University.

2. Jena, Subas Chandra. Some aspects of the absolute summability of fourier series and allied series. Berhampur University.

3. Mangalik, R. C. A study of special functions with special reference to difference calculus methods. Jiwaji University.

4. Mishra, S. K. A mathematical study of multiphase fluid flow problems in porous media. South Gujarat University.

5. Pandey, S. N. A study in the convolution structures for special orthogonal expansions and their applica- ions. Bhopal University.

6. Raj Kumar. Contributions to summability. Vikram University.

7. Rajasekharan Mohansingh. A study of fatigue fracture in different solids under various stress cycles. Karnatak University.

8. Ramakrishnan. T. S. Some mathematical models for optimal planning decisions. I.I.T., Kanpur.

9. Sinha, Siya Ram. Ancient India's contribution in the field of decimal place value system of numeral notation. University of Bihar.

10. Sriramachandra Murty, Malapaka. Longitudinal dispersion of absolute in liquids through circular pipe. Andhra University.

Statistics

1. Deshpande, Madhukar Narayan. Some aspects of sampling from finite population. Marathwada University.

Physics

1. Ghosh, Ashit Baran. Ionospheric and tropospheric refraction errors in satellite system and radars. University of Delhi.

2. Gokhale, M. P. Analysis of some higher order electromagnetic effects. I. I. T., Bombay.

3. Khatib, Syed Abrar Husain. Heat transfer through fluids: Some experimental investigations in conducting and insulating liquids subjected to radial electric fields. Nagpur University.

4. Koul, Radha Krishan. Some investigations on deep inelastic trident electro-production processes. University of Kashmir.

5. Pande, Madan Kumar. Studies on microstrip circuits with special reference to thin film $Bi_2 0_3$ overlay. University of Poona.

6. Sona, Ram Pandita. Some investigations of high energy lepton induced hadronic reactions. University of Kashmir.

Chemistry

1. Bhatia, Subhash Chander. Crystal structure determination by x-ray diffraction:

(i) Structure of bis-(Ncyclonexyisalicylaldiminato) nickel (II).

(ii) Structure of bis-(N-allylsal icylaldiminato) copper (II).

(iii) Preparation and preliminary studies of some compounds containing Cu, Ni, Co and Ti. Kurukshetra University.

2. Bhatnagar, Gokal Kishore. Synthesis of castor oil derivatives potentially useful for plasticisation of PVC resins. Kurukshetra University.

3. Deshmukh, Ashok Ambadasrao. Synthesis of nitrogen hetrocycles of potential pharmacological interest. Marathwada University.

4. Deshmukh, Kanchan Govindrao. Studies in solid state chemistry. Marathwada University.

5. Dina Nath. Synthesis and characterization of mono and bis (cyclopentadienyl) titanium (iv) derivatives. University of Delhi.

6. Fulwadiwala, P.B. Antituberculosis compounds, disubstituted acetic acids and their derivatives South Gujarat University.

7. Gunwant, Madhaorao Kinhikar. Sepectrophotometric studies of some water soluble chelates of hafnium with organic days. Nagpur University.

8. Gupta, B K. Studies in rearrangements of N-halo anilides. Jiwaji University.

9. Hadkar, Ulhas Balkrishna. Studies in sulphur corrosion in hydrocarbon processing. Nagpur University.

10. Harjinder Singh. Chemistry of rhenium: Studies in the preparation of oxompentachlore complexes of hexa and penta valent rhenium. Kurukshetra University.

11. Ingleshwar Shashikant Prabhudev. Heterocyclic boron compounds. Shivaji University.

12. Kogekar, Ramesh Gopal. In-vitro studies on the biosynthesis of penicillin the mechanism of joining the side chain acids to 6-aminopericillanic acid. University of Poona.

13. Krishan Lal. Condenced carbocyclic compound. Kurukshetra University.

14. Kulkarni, Shashikant Gangadhar. Studies in metal-complexes. Marathwada University.

15. Patel, K.K. Studies on chelates. Saurashtra University.

16. Pullarao, Sri Yedluri. Some new analytical applications of cacotheline and F-benzoquinone. Andhra University.

17. Ram Naresh Singh. Synthetic applications of carbenes. Vikram University.

18. Rupenaguntla Sambasiva Rao. Electrometric and spectrophotamtric investigations on the chelating and chromogenic properties of some aroyl hydrazines. Andhra University.

19. Sathe, Jayant Vishwanath. Modification of tetracyclic triterpenes into steroid hormons analogs. University of Poona.

20. Shah, K. J. Studies on metal chelates. Saurashtra University.

21. Shakuntla Devi. Light-induced reactions of some carbonyl and halegenated compounds. Kurukshetra University.

22. Sinha, Neelam. Photo-addition reactions and synthesis of polynuclear aromatic hydrocarbons. Kurukshetra University.

23. Vyawahare, Anil Ramchandra. X-ray studies of parovakites and related compounds. Nagpur University.

Earth Sciences

1. Adyalkar, Pandurang Ganpatrao. Ground water potential of the upland alluvial valleys of India. Nagpur University.

2. Jayaraman, S. A study of the water-mineral equilibria in the river Ganges. Jawaharlal Nehru University.

3. Madhupratap M. Studies on the ecology of Zoo plankton of Cochin back-water. University of Cochin.

4. Maratha, Shashishekhar. Shankar Petrology and structural peculiarities of the Godavari Valley Baslate near Nasik, M. S. Nagpur University.

5. Pachauri, Ashok Kumar. Stratigraphic and petrographic studies of the rocks of purola area, Kumaon-Garhwal Himalaya, Districts Uttarkashi and Dehradun, Uttar Pradesh. University of Delhi.

6. Sagar, Surinder. The structure and petrology of the lava flowes of the Deccan traps and associated intrusions around Mahaeshwar M.P., India. Vikram University.

7. Shastry, Balkrishna Vishwanath. Petrology and petrochemistry of rocks of South Wainganga Valley in Balaghat District. Nagpur University.

Engineering & Technology

1. Angal, R. D. Surface phenomena in metallurgy. I. I. T., Bombay.

2. D. K. Singh. Kinetics of oxidation of sodium dithionite. I. I. T., Kanpur.

3. Davinder Singh. Similitude parameters to predict forces on tillage tools. Punjab Agricultural University.

4. Deshpande, S. D. Studies in inorganic pigments. I.I.T., Bombay.

5. J. Eqbal. Hydrocracking of heavy petroleum fractions. I. I. T., Bombay.

6. Joshi, B. B. Dynamics of flexible rotor bearings systems. I. I. T., Bombay.

7. Korgaonkar, M. G. Optimization in production smoothing problems. I. I. T., Bombay.

8. Kulkarni, Suresh Saviaram. Dynamics of frames with special reference to undercariages of railway wagons. Nagpur University.

9. Paranjpe, S. A. Interrelation of crack displacement with stress intensity factor and J-integral. I. I. T., Bombay.

10. Sadananda, R. Descriptive inference in pattern recognition. I. I. T, Kanpur.

11. Sankara Rao, Paladugu Sayee. Study of the laminar forced convective heat transfer and pressure frop in channels of trapezoidal cross section. Andhra University.

12. Srinivasan, T. M. Investigation on the correlation of process parameters with the qualities of sinters from rourkela iron ore. I. I. T., Bombay.

13. Subramanyam, B. Optimal and sub-optimal controls and strategies for improving transient stability of power system using new concepts. Kakatiya University.

14. Vasu Deo. Hydraulic characteristics of sediment transport in horizontal pipes at optimal conditions. I. I. T., Bombay.

15. Venkata Rama Rao, A. On the structural changes in eutectics and the evaluation of factors affecting the changes. Nagpur University.

16. Venkatraman, G. Petrology of the granitic and associated rockes around Kalyadi Hassan District, Karnataka. I. I. T., Bombay.

BIOLOGICAL SCIENCES

Biochemistry

1. Bhandari, Sneh Deep. Studies on rat intestinal phytase. M. S. University of Baroda.

2. Kamalakar Vishwanath Shankhapal. Studies on some fungi resistant to commonly used fungicidal or gungistatic coactings on Nagpur mandrin orange (citrus reticulate blanco). Nagpur University.

3. Mungikar, Avinash Madhukarrao. Alterrations in drug metabolizing enzymes and liped peroxidation due to organic solvents. Marathwada University.

4. Saramma Kuriakose. Studies on lemon (citrus acid) vesicles cultivated *in Vitro*. M. S. University of Baroda.

Botany

1. Dasgupta, Aparna. Cytotaxonomical studies in some members of the tribe hibisceae and ureneae of the family malvaceae. M. S. University of Baroda.

2. Gupta, Jagatnarayan. Growth performance and energy accumulation of desmostachya bipinnata (Linn) stapf. in grassland communities around Jhansi. Jiwaji University.

3. Jahagirdar, Hemant Anand. Cytogenetic studies in foeniculum vulgare mill. Nagpur University.

4. Mathur, Sunila. Studies on pectolytic and cellulolytic enzymes of two pathogenic isolates of verticillium. University of Udaipur.

5. Oomman, Cherukunnathu Indiculla. Embryological and taxonomical studies in the papilionaceae. Nagpur University.

6. Padoley, Shyamolkant Kamlakant. Studies in ascomycetes: The biology, cytology and life cycle of some rare genera of phacidiales (discomycetes) from central India. Nagpur University.

7. Rawat, Manwar Singh. Morphogenic studies on some bryaceae part I: Patterns of differentiation in the protonema of Bryum Spp and *Leptobryum* part II: Reproductive cycle of *Leptobryum Pyriforme* in vitro. University of Delhi.

8. Sharma, Mahendra Kumar Shridhar. Ecological studies on ishaemum ragosum salisb. University of Udaipur.

9. Yawale, Nana Ramrao. Investigation of plant fossils from intertrappean series of India. Nagpur University.

Zoology

1. Anand, Kuljit Kaur. Effect of short photo period, blinding and molatonin treatment on the maturation of ovary of *Mystus tongara* (Hem.). Punjab Agricultural University.

2. Arbansjit Kaur. Morphological and histochemical studies on the vas doforons and its spermatozoa in the fiold rat (Millardia moltada). Punjab Agricultural University.

3. Bhopale, Kamleshwer. Studies on experimental inflection of the ward tapeworm hymenolepis Nana in Swiss albino mice immune response and serum protein changes. Vikram University.

4. Jadhav, Madhukar Vasudeorao. A study on morphology and anatomy of a freshwater fish, *Channa Cachua* (Hamilton). Marathwada University.

5. Luther, Gurrala. Studies on the biology and fishery of some marine fishes of India. Andhra University.

6. Paul, Susanta Kumar. Comparative osteo-myological study of the Zizard fishes (familo—synodidae) from Visakhapatnam. Andhra University.

7. Raichuri, Nazeer Ahamed. Studies on the experimentally induced gastric ulcers and their prevention in forestomacheotomized albino rats. Karnatak University.

8. Shahnoor, Shah Mohd. Studies on the acanthocephalan parasites of vertebrates. Osmania University.

9. Swarnakar, Radharaman. Cytological and histochemical investigation of some tissues of fresh water planarian, dugesia, indica. Jiwaji University.

10. Valamuri Raghukumar. Studies on certain eadocrinological aspects of the pancreatic islets in the bandicoot bandicota bengalensis. Nagpur University.

Agriculture

1. Ajaib Singh. Studies on alternaria blight of rape and mustard crops and its control in the Punjab. Punjab Agricultural University.

2. Charan Singh. Carbon fertilization of sugarcane and maize crops through microbial respiration in field soil. Punjab Agricultural University.

3. Dodd, Nina Kanwar. Study of the effect of varieties and location on composition and cooking quality of chickpea. Andhra Pradesh Agricultural University.

4. Goverdhan Singh. Studies of the criteria for classification of irrigation waters with respects to soils of different taxture. University of Udaipur.

5. Gurdeep Singh. Evaluation of hoteresis and combining ability in two sets of *Gossypium Hirsutum* L. crosses. Punjab Agricultural University.

6. Gurvinder Singh. An analysis of some factors affecting genetic gain for egg production in chickens. Punjab Agricultural University.

7. Harwant Singh. Effect of soil water storage, kaolinite spray and mulching on barely. Punjab Agricultural University.

8. Malik, Naresndra Singh. Utilization of protected, groundnut proteins and 'Uromol' by ruminants. Punjab Agricultural University.

9. Misra, Ashok. Studies on anthracnose disease of jowar (Surghum volgare pers.) caused by collectotrichum greminicolum (Ces.) Wilson. University of Udaipur.

10. Mohinder Singh. Weed control studies in *Moong* phaseolus sureus roxb. Punjab Agricultural University.

11. Patel, Mulchandbhai Shivrambhai. Effect of soil manipulation on water and nitrogen economy in paddy on a loary sand. Punjab Agricultural University.

12. Paul, Jatinder. Utilization of alkali treated wheat straw based rations by goat. Punjab Agricultural University.

13. Pegatraju Ravindra. Effect of infestation by cotton jassids, amrasca bigtulla, bigtulla ishida on leading cultivars of cotton in Andhra Pradesh. Andhra Pradesh Agricultural University.

14. Raveendran, C. S. Chemical control of weeds in transplanted rice during third crops seasons. Kerala Agricultural University.

15. Saini, Ravinder Singh. Quantitative genetic studies within and between mutant populations of cereal crops. Punjab Agricultural University.

16. Surinder Kumar. Plant growth and uptake of boron and molybdonum as affected by potassium fortilixation. Punjab Agricultural University.

17. Surinder Mohan. Zinc-copper interaction in crop nutrition. Punjab Agricultural University.

18. Surinder Singh. Milk production versus overall economic merit as the selection criterion for buffalo improvment. Punjab Agricultural University.

19. Verma, Jagdish Prasad. Studies on the varietal susceotibility of sesamum against antigastra catalaunalis duponchel Lepidoptera : Pyralidae. University of Udaipur.

Horticulture

1. Bhaskara Rao, Mandava Udaya. Studies on the comparative performance of different varieties of brinjal (solanum melangenal) at Tirupati. Andhra Pradesh Agricultural University.

2. Rana, Randheer Singh. Effect of some micronutients on the growth, yield and quality of grape Vitis vinifera L. cultivar Thompson seedless. University of Udaipur.

3. Yogeswara Rao, Munagapati. Studies on the effect of moisture regimes, shade levels and growth regulators on furitset yield and quality of tomato (Lycoper sicon esculentum mill). Andhra Pradesh Agricultural University.

Library System for Higher Education

(*Contd. from Page 323*)

one another to the great benefit of the clientele of all. A phased programme should be drawn up for the establishment of such a library system which is sure to go a long way in improving library facilities for the colleges and concomitantly in improving academic standards.

If higher education is to be lifted from being a mere exercise of preparation for passing examination without the more basic objectives of education being realised, it has to be made more library-centred than at present. If this is conceded, it is imperative that provision should be made for adequate library facilities to be available to students. T. H. Huxley, criticising the educational system in England a century ago said : "Students work to pass, not to know and nature takes its revenge ; they do pass and they don't know'. It is doubtful if today, a century hence, we in India have moved far away from this position ; and one of the prominent contributory factors is that we have allowed library provision to remain a weak sector of our higher education especially in the colleges where the large majority of students are enrolled for education. A substantial improvement of the position is a matter that calls for the urgent attention of all concerned.

Examination Business

(*Contd. from Page 325*)

(g) The candidates' answer books be returned to them alongwith the result sheets so that they may know where they have faltered.

(h) Every script be evaluated by a board of examiners and not by single examiner.

(i) Experiments be made with objective type questions, short answer questions and single word questions alongwith essay type. The stress on purely memory questions should be reduced to the minimum.

In the end it may be worthwhile to mention that one should be sure of the objectives behind an examination paper/question. For instance while setting a examination paper in Geography one should be sure of what is expected of a candidate so that the degree of reliability and validity is sufficiently raised. The objective behind each question be identified clearly so that marking could be concretised.

Examinations should be meant mainly to guide pupil achievement. The attempt should be to find out what the candidate knows and not what he does not know. Examinations should cease to be a game of hide and seek. And if that is done the system can also easily be rid of all the unhealthy practices that have come to be associated with it.

CLASSIFIED ADVERTISEMENTS

S. N. D. T. WOMEN'S UNIVERSITY

1, Nathibai Thackersey Road,
Bombay 400 020.

Applications are invited on prescribed forms available from the University Office on payment of Rs. 5/- (by Money Order or in Cash) for the following posts to be filled in at the Women's Polytechnic of the University, located at its Juhu Campus. The medium of teaching will be English. Applications should reach the undersigned by **June 27, 1977**.

Sr. No.	*Particulars of Posts*	*No. of Posts*
A.	Head of Departments:	
(a)	**Costume Design & Dress Making:** (With specialization in Textiles/Clothing/Dress Designing/Fashion)	1
(b)	**Food Technology**	1
(c)	**Pathology** (M. D. Pathologist will be preferred)	1
B.	Other Posts:	
1.	**Lecturer in Pharmacy**	2
2.	**Lecturer in—Commerce Chemistry, English**	1 in each
3.	**Lecturer/Instructor in Costume, Design & Dress Making**	1
4.	**Instructor for Typewriting—Shorthand and Clinical Pathology**	1 in each
5.	**Accountant, Accounts Clerk, Librarian, Store-keeper**	1 for each

QUALIFICATIONS:

1. HEADS OF DEPARTMENTS

(i) A first or second class Master's Degree in the subject concerned.

(ii) Either a Research Degree of the doctorate standard or an outstanding competence assessed from the review of published research carried out during the five years preceding the date of the application or the published literary or scientific work during the said period.

(iii) Teaching and/or administrative experience of about 7 years in an institution offering applied courses like those of a Polytechnic.

2. **Lecturer in Pharmacy:** At least a second class Master's degree in Pharmaceutics/Pharmacognosy. Persons with B. Pharma (II class) may be considered in scale No. 3.

3. **Lecturer in Commerce (Accountancy), Chemistry, English (linguistics):** At least a Second Class Master's Degree in the subject concerned.

4. **Lecturer/Instructor for Costume Design & Dress Making:** At least a second class Master's Degree in Textile/Clothing/Dress Design or Diploma from a recognised institution with cutting/sewing/embroidery, preferable with 10 years' experience.

5. **Instructor in: (a) Typewriting & Shorthand** and (b) **Clinical Pathology:** (a) A Graduate with G. C. C. Certificate in Typing & Shorthand. A person having teaching experience will be preferred. (b) B.Sc. with Microbiology/Chemistry and Diploma in Medical Laboratory Technology, preferably with some experience.

6. **Accountant:** B.Com. with Accountancy having 3-5 years experience. Qualification relaxable for experienced persons in which case appointment will be in lower grade.

7. **Accounts Clerk:** S. S. C. with Government Diploma in Accountancy.

8. **Librarian:** M. A. or M.Sc. II Class and Bachelor in Library Science or Graduate with a Diploma in Lib. Science.

9. **Store-keeper:** B.Sc. or Inter Science or Diploma in Pharmacy.

Note: (a) Other things being equal, preference will be given to candidates from Scheduled Caste/Scheduled Tribes/Backward Class communities. (b) Higher starting salary may be considered in exceptional cases.

SALARY SCALES as under with allowances extra

1. **Heads of Departments-Rs.** 650-45-1100-50-1200
2. **Lecturer in Pharmacy-Rs.** Rs. 400-25-550-30-640-EB-30-820-40-940
3. **Lecturer in other subjects-Rs.** 300-20-460-EB-20-500-25-650-30-830.
4. **Instructor-**Rs. 300-15-390-20-430-EB-550-25-575.
5. **Accountant-**Rs. 260-10-280-15-430-OR Rs. 150-10-230-EB-10-270-15-300.
6. **Accounts Clerk-**Rs. 115-4-135-5-160-EB-5-185-6-215.
7. **Librarian-**Rs. 300-25-600-OR Rs. 160-10-250-EB-10-280-15-325.
8. **Store-keeper if B.Sc.-**Rs. 130-5-150-8-190-EB-10-300
   If Int. Sc./Dip. in Pharm-Rs. 115-4-135-5-160-EB-5-185-6-215.

(Smt.) Kamalini H. Bhansali
REGISTRAR

SAMBALPUR UNIVERSITY
JYOTI VIHAR, BURLA

Advertisement No. 17501/TDS
dated 13-6-77

The Sambalpur University requires a Professor/Reader in Home Science to be appointed on contract basis. Persons in similar capacity may contact the undersigned stating complete Bio-data, Salary expected and other terms and conditions if any, latest by **10th July, 1977**.

(G. P. Guru)
REGISTRAR

THE UNIVERSITY OF KASHMIR, SRINAGAR

NOTICE

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REGISTRAR

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ADVERTISEMENT No. EI/1/77

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2. A good physique.

Desirable: Ex-serviceman with good record.

AGE: Below 35 years (relaxable in the case of Ex-servicemen).

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PRINCIPAL

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Applications are invited by **30th June, 1977** for admission to the following degree programmes on prescribed form obtainable from the Registrar, alongwith other details by sending a crossed Indian Postal Order of Rs. 5.00 payable to the COMPTROLLER of this University or in cash at Comptroller's office accompanied by a self addressed envelope (28 x 13 cm.) bearing postage stamps worth Re. 1/- Name of the degree programme for which the form is required should be clearly written on the envelope. Separate applications are required for each programme.

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3. Admissions are also likely to be made in the second trimester beginning November 1977 for candidates whose results are not declared by the time the admissions are finalized in the first trimester beginning July 1977 subject to the availability of seats.

(O. S. Misra)
REGISTRAR

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by

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and

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University News

A CHRONICLE OF HIGHER EDUCATION & RESEARCH JULY 1, 1977 80 PAISE

Education Minister attends AIU meeting

. Chunder, Union Education Minister, attended the meeting of the Standing Committee of the Association held in
on June 26, 1977. He is being received by the President of the Association, Dr. S. M. Singh 'Suman'.

UNIVERSITY BOARD OF INDIA
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CLASSIFIED ADVERTISEMENTS

GANDHIAN INSTITUTE OF STUDIES RAJGHAT-VARANASI

Applications are invited for three posts of Professors, one each in Economics, Political Science and Sociology in the grade of Rs. 1500-60-1800-100-2000-125/2-2500, on the prescribed form obtainable (free of cost) from the Registrar, Gandhian Institute of Studies, Post Box No. 116, Rajghat, Varanasi-221001, by making a written request accompanied with a self addressed envelope of 23x10 cms,. so as to reach him by **July 15, 1977** from persons residing in India and by **August 20, 1977** from persons residing outside India. The application must be accompanied with a crossed Indian Postal Order or Bank Draft of Rs. 10/- drawn in favour of the Registrar, Gandhian Institute of Studies, Varanasi. The application fee is non-refundable.

Persons already in employment must apply through their employers. The right of calling a candidate for an interview will be reserved with the Selection Committee.

Qualifications: As prescribed for U. G. C. Scales of Pay. Details will be supplied with the application form. However, if a candidate possessing above qualifications is not available or is not considered suitable, the Selection Committee may appoint a person by negotiation.

A- Essential:

- (i) A Doctor's degree in the subject concerned or an equivalent research work (Published or otherwise);
- (ii) Consistently good academic record (that is to say, the overall record of all assessment throughout the academic career of a candidate) with first or high second class(that is to say, with an aggregate of more than 54% marks) Master's degree in the subject concerned or an equivalent degree of a foreign university.
- (iii) About 10 years postgraduate teaching and or research experiences.
- (iv) Adequate experience of guiding and promoting research.

Provided that if the Selection Committee is of the view that the research work of a candidate, as evidenced either from his thesis or his published work in standard journal is of a very high order, it may relax any of the qualifications prescribed in (ii) above.

B-Preferential:

Persons with the following qualifications and/or experience will be preferred:

- (a) Experience of conducting research in Gandhian thought;
- (b) Experience in conducting empirical research;
- (c) Specialization in Developmental Economics with special reference to regional development and planning (for the Professor of Economics);
- (d) Specialization in Political Development (for Prof. of Pol., Sc);
- (e) Specialization in Social action and Community Studies (for Professor in Sociology);

No. T.A./D.A. shall be paid to the candidates called for interview

REGISTRAR

INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY

P. O. I.I.T., Powai, Bombay- 400076

Advertisement No. 885/77

Applications on plain paper are invited from the citizens of India for filling-up the temporary post of PROJECT ENGINEER/PROJECT SCIENTIST to work on a sponsored project of the Aeronautics Research and Development Board, Ministry of Defence entitled "Stress Concentrations" undertaken in the Aeronautical Engineering Department of this Institute on or before **16th July, 1977,** by the Registrar, I.I.T., Powai, Bombay-400076.

Salary

Rs. 800/- to Rs. 1200/-per month (Consolidated) depending upon qualifications and experience.

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Minimum M. Tech/M. E. in Aero/Civil Structures. Knowledge of F.E.M. and Fortran programmes essential. Knowledge of analysis of FRP desirable.

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A. Lecturers in Animal Nutrition/Animal Breeding/Animal Production and Management (for preparing panel of Selected candidates) In the Scale of Rs. 700-40-1100-50-1600/-

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(i) Consistently good academic record with first of high Second Class (B+) Master's degree or recognised equivalent qualification in Animal Nutrition/Animal Breeding/Animal Production & Management following a good Bachelor degree in Veterinary and Animal Science;

(ii) A doctoral degree in relevant subject or published work of an equally high standard;

(iii) At least two years experience of teaching/Research in relevant subject.

Age: Preferably below 40 years.

B. RESEARCH ASSISTANT (3 Posts-Temporary under Schemes) In the Scale of Rs. 325-15-475-EB-20-575/- (Likely to be revised).

Qualifications: Essential:

(i) Consistently good academic record with Ist or high second class (B+) Master's degree in Genetics & Plant Breeding/M.Sc. (Ag.) in Botany/Agronomy following good B.Sc. (Ag.) degree.

Desirable:

A doctoral degree in the relevant subject.

Age: Preferably below 35 years.

C. EXTENSION JOURNALIST (One Post) In the Scale of Rs. 325-15-475-EB-20-575/-(Likely to be revised).

Qualifications: Essential:

(i) Post-graduate degree Diploma in journalism from a recognised Institute: (ii) Degree Diploma in Agriculture from a recognised Institute. (iii) Five year's experience in Agricultural Publication Work.

Desirable:

1. Experience in Agricultural Production extension: 2. Knowledge of rural conditions of West Bengal; 3. Aptitude of writing for the farmers.

Age: Below 35 years.

Experience and age limit may be relaxed on the recommencation of the Selection Committee in the case of a candidate otherwise well qualified. A high initial pay in the scale may be granted on the basis of qualifications, experience and present emoluments.

Applications must be submitted in the prescribed form which may be obtained from the OFFICE OF THE REGISTRAR, BIDHAN CHANDRA KRISHI VISWA VIDYALAYA, P.O. MOHANPUR. DIST NADIA, WEST BENGAL personally or by sending self addressed stamped (0.25) paise envelope (25 CM X 12 CM) ON PAYMENT OF RUPEES EIGHT (Rs. 8.00) only for the posts BY CROSSED INDIAN POSTAL ORDER in favour of the BIDHAN CHANDRA KRISHI VISWA VIDYALAYA. Persons already in employment should apply through proper channel. Candidates in abroad may also apply on plain paper with necessary Postal Order. Applications, completed in all respect should be submitted in an envelope superscribed with the name of the post and must reach OFFICE OF THE REGISTRAR BY THE **16th July, 1977.**

Candidates called for interview will will have to appear for the same at their own cost.

REGISTRAR

UNIVERSITY NEWS

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No. 13 ● 1977

A Fortnightly Chronicle of Higher Education

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Opinions expressed in the articles and reviews are individual and do not necessarily reflect the policies of the Association.

Editor : ANJNI KUMAR

Autonomy and Accountability Go Together, says P.C. Chunder

The Hon'ble Minister for Education, Dr. P.C. Chunder, met the Standing Committee of the Association of Indian Universities at lunch on June 26, 1977. He also discussed a few matters of mutual interest with the Committee. After listening to the discussions on some of the important items relating to University Education and Management, the Hon'ble Minister for Education, Social Welfare and Culture observed as follows :

The university is not an isolated body functioning independently but is a part of the society. The university may consist of the cream of the society. Nevertheless it is a part of the society in which it is rooted. Universities therefore have to be viewed in this perspective.

I believe that autonomy for the university is essential. However, autonomy cannot be equated with autocracy. As the Union Minister for Education I am perforce the focal point of the entire educational system in the country. I have to discharge my duties to the country and am answerable to the elected representatives of the people and as such I am involved in what goes on in the entire country in the sphere of education. Autonomy would always include a certain amount of accountability.

I strongly believe in the restoration of democratic principles in the universities. Teachers and students ought to be consulted whenever and wherever necessary Again a machinery has to be devised for ensuring suitable checks and balances. In drawing up plans and in their implementation, the active and vital help of this Association of Indian Universities would be needed. The task would include drawing up the dividing line between autonomy and accountability.

With regard to the matter of elections to Students Union—whether the membership is compulsory or optional, whether elections have to be direct or indirect—the students are vitally concerned and it is necessary to consult them. Consultation with the State Governments is also necessary. Likewise it is also important to take the teachers into confidence.

Great emphasis has been laid on uniformity. I am of the view that there can be no uniformity in this vast country. Some general uniformity in matters of standards is possible. However, details with regard to structure, courses, etc. will naturally have to vary.

The NCC and NSS activities are no doubt good. All attempts should be made by all of us to ensure that they do succeed. At the same time I agree with you that facilities for sports and games in the universities and colleges need to be substantially improved and strengthened.

Coming to the last item of the agenda which concerns the entry of police into the campuses, the Hon'ble Minister agreed with the resolution of the Standing Committee that the police should enter the campus whenever there was a problem of law and order. No one is above the law of the land and if situation within the campus so demands, police ought to enter the campus.

Finally he thanked the Association of Indian Universities for giving him the opportunity of meeting the members of the Standing Committee of the Association.

LIBRARY

Academic and Financial Management of Higher Education

J. L. Azad*

The university institutions in India are engaged in a grim struggle for survival. On the one hand, they are called upon to meet the almost insatiable demand for university places from an ever-increasing body of students, not all of whom are suitable for entry into its prestigious portals. On the other, the physical and financial resources available to them are in no way commensurate with their fast expanding responsibilities. This situation has severely limited the capacity of these institutions to become centres of academic excellence and places to produce leaders of thought, scientists and technicians of the requisite calibre.

It does not need a gloomy prophet to predict that in the present state of economy, the educational system in India, will have to undergo a prolonged period of inadequacy of resources. The imperatives of the situation demand streamlining the machinery of educational management, utilisation of unconventional methods of education and training and putting the existing infra-structure to the maximum use so that the cost-benefit ratios in education could be optimised.

The purpose of this paper is to discuss some of the problems of the academic and financial management of the institution of higher education at the national and state levels so as to see how far the present system is attuned to fulfil the needs arising out of the changing situation in India. It is also intended to identify the areas in which the management procedures and policies need to be rationalised and to suggest the institutional changes that would be necessary to achieve these objectives.

In order to have a precise idea of the complexities of the financial and academic management of higher education, it is pertinent to have a brief discussion of the central and state responsibilities as delineated in the constitution.

Constitutional position

It has been observed that the demarcation of the roles of the central and state governments in the Indian Constitution lacks specificity and considered on the whole, is seemingly contradictory. In one single sweep, the Constitution assigned to the states tkes away the entire field of education including universities. This extensive responsibility was, however, curtailed by taking out a number of subject areas from the state responsibility as would be seen from the following items in the Union List.

> **Entry 63 :** The institutions known at the commencement of this Constitution as the Banaras Hindu University, the Aligarh Muslim University and the Delhi University and any other institution declared by Parliament by law to be an institution of national importance.
>
> **Entry 64 :** Institutions for scientific and technical education financed by the Government of India, wholly or in part and declared by Parliament by law to be institution of national importance.
>
> **Entry 65 :** Union Agencies and institutions for
>
> (a) Professional, vocational or technical training, including the training of police officers; or
>
> (b) the promotion of special studies or research; or
>
> (c) scientific or technical assistance in the investigation or detection of crime.
>
> **Entry 66 :** Coordination and determination o standards in institutions of higher educatio or research and scientific and technical institutions.

The main responsibility of the central government in the field of higher education emanates fro Entry 66 in the Union List, which enjoins on th centre to take necessary steps for the coordinatio and determination of standards for higher educatio and research and scientific and technical institutions It is evident that the central government has bee made responsible for the improvement of standard of institutions on whose establishment it has n control, except through the mechanism of withholding financial assistance under the modifie U.G.C. Act, (1972). This is obviously of dubiou effectiveness.

It may also be mentioned that entry 66 relates t the standards of institutions—a term, which is muc more comprehensive and all embracing. By implication, therefore the central responsibility extends eve to the colleges, which are responsible for over 80 of the university enrolment. Here, the situation i far more complex and, apparently, beyond th control of any central organisation. Most of thes colleges have mushroomed on account of variou politico-sociological pressures operating in the state They have an extremely tenuous relationship wit the universities, to which they happen to be affiliate To expect a central organisation to contribute effectively to the improvement of their academic standar is perhaps asking for too much.

The enormity and the complexity of the centr responsibilities in higher education is matched on by the heterogeneity of the institutional set

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**Chief (Education), Planning Commission, New Delhi.*

created for the purpose. It is more than an accident of history that the institutional framework at the centre has a multi-faceted configuration. Here, one has to contend with a number of organisations like University Grants Commission, Indian Council of Agricultural Research, Indian Council of Medical Research, Medical Council of India and All India Council for Technical Education having varying organisational set up, functions etc. Unfortunately, there is precious little coordination among these organisations with the result that it is difficult to introduce uniform policies and procedures for university development.

Need for coordination

There is, therefore, need for bringing about coordination in the financial and academic management of higher education at the central level. The essentiality of this measure has been stressed time and again, with little positive results. The latest to underline its importance was the Education Commission (1964-66), which was emphatic in its declaration that "the U.G.C. should represent the entire spectrum of higher education". With its characteristic penchant for compromises, the Commission was, however, not too slow to suggest the establishment of U.G.C.-type organisations for medical, engineering and agricultural education. It also proposed that the membership of these bodies should be overlapping and there should be frequent meetings of the main U.G.C. and the U.G.C.-type bodies at the chairmen and the members level, so as to bring about a coordinated approach in the field of higher education.

While one would agree with the need stressed by the Education Commission for enlarging the scope of U.G.C., it is difficult to accept, even as an interim measure, the compromise suggested by the Commission, mainly because, it is not likely to achieve the desired goal of ending the divorce between general and professional education at the university stage. It may be recalled that the U.K. Committee on Higher Education (1963), which considered a similar question, was at 'first sight' impressed with the 'logical tidiness' of the idea of creating additional grants committees. On balance, however the committee rejected the solution. The Committee argued that it would involve academic and administrative divisions much too rigid to fit the facts of the institutional complex. The Committee also felt that it would be difficult to assess the total financial needs of the institutions and to make allocations of funds, if there were "multiplicity of Committees covering comparable levels of teaching and research in similar fields of study." The same considerations are relevant to the Indian situation.

There is, therefore, need for the establishment of one single organisation at the central level to look to to the academics and finances of the institutions of higher education. This alone can bring about an integrated development of higher education and initiate a process of modifying the present system, which is centrifugal in character and makes nonsense of the inter-disciplinary approach in education and research.

Revamping U.G.C.

The only organisation, which has the potentiality of developing as an instrument of fulfilling the responsibility in terms of entry 66 in the Constitution is the U.G.C. The Commission will, however, need to be made more broad-based in terms of membership as well as functioning so as to become more effective than at present. Some suggestions about making it more representative in character follow.

The U.G.C, (Amendment) Act, 1972, provides that the Commission shall be composed of 12 members including the Chairman and the Vice-Chairman. The membership is to consist of two officers of the central government, four teachers of universities and the remaining four out of person having knowledge of, or experience in commerce, forestry or industry; members of engineering, legal, medical or other profession and vice-chancellors.

The proposal for enhancing the academic jurisdiction of the U.G.C. will necessitate ;

(a) increasing the number of members of the Commission from the present 12 to at least 15.

(b) giving large representation to the experts from subject areas like medicine, agriculture etc. It may be useful for the U.G.C. to constitute subject panels under a member of the Commission to consider questions relating to their respective disciplines. The ultimate responsibility of taking decisions should, however, vest with the U.G.C.

(c) diversifying the official representation on the the Commission. The following may be stated by way of elaboration of this proposal.

As a convention, the two officers from the central government are the secretaries of the Ministries of Education and Finance. With the enlargement of the functions of the Commission, the association of the Ministeries of Agriculture, Health etc. will need to be considered. Further, the Planning Commisson, which is responsible for the determination of priorities in educational development and allocates the resources among the different sectors of education, is not represented on the Commission. The result is that the Planning Commission has no mechanism of acquainting itself with the needs and priorities of the U.G.C. It would be advantageous, if the Planning Commission is also given representation on the Commission, so that it could have its say right at the stage of formulation of the plan; keep watch on its execution and ensure its dovetailing with the programmes of the state governments.

Another notable omission is the non-inclusion of any officer of the state education departments in the U.G.C. The U.G.C's schemes are generally on a sharing basis and the view point of the states needs to be ascertained before launchitg these schemes. It wôuld be very much in the interests of higher education, if one or two representatives of the states are included as U.G.C. members.

Management set up in States

We have highlighted the need for bringing about coordination in the organisational set up at the national level in regard to the management of higher education. These reforms will achieve partial results, unless institutional and procedural changes are effected at the state level. The problem is much more complex here, because of the non-existence of any specialised institutions concerned with higher education, in almost all the states. As a consequence, the university institutions have to deal with the state education departments, who, on the testimony of the Gorakhpur University, "are not properly equipped for the purpose and there are hardly any persons in these departments, who have an idea of the inner working of the institutions of higher education. The result is that these institutions are very shabbily treated". There is, therefore, need for establishing an organisation on the pattern of the Central U.G.C., whieh can work as a buffer between the university institutions and the state bureaucracy. The logical course is to set up the state U.G.Cs.

While making this suggestion, the author is not unmindful of the reservations expressed by the U G.C. and the arguments advanced by the Education Commission (1964-66) against this proposal. It is, however, felt that it is difficult for one central organisation to deal effectively with the fast expanding institutional complex in a vast country like ours and, therefore, there is need for local organisations to perform functions similar to those of the U.G.C. at the state level.

It is admitted that the experience of setting up of the state U.G.Cs has not been very encouraging. The two states that had set up the state U.G.Cs had to disband these organisations, because of certain inherent difficulties with their constitution and working. It may, however, be stressed that in a country composed of 31 constituent units, the experience of only two state governments is hardly adequate to enable one to draw any firm conclusions.

It may also be mentioned that the University Education Commission (1948-49) under the Chairmanship of Late Dr. Radhakrishnan, which had recommended the establishment of the Central U.G.C. had also recommended the setting up of the State Grants Allocation Committees on the lines of the Central Grants Commission. It is not understood why the report of that august Commission has been implemented in a half-hearted manner and the the State Grants Committees have not been set up even after 27 years of the Commission's report.

It has also been experienced that the State government have very ineffective machinery for the collection of statistical data pertaining to educational development. The absence of such data is a serious limiting factor in planning for the expansion and development of higher education facilities. This lacuna can be removed by strengthening the statistical units of the state department of education. This unit may be transferred to the State University Grants Committees as and when they are set up.

Institutional proliferation

No amount of institutional reorganisation at the states levels will make a lasting impact if the prevalent craze for setting up university institutions remain unchecked. The disconcerting aspect of the present situation has been that not all institution are set up to satisfy genuine educational needs. According to the Bihar University Inquiry Comission ; "sentiment, political expediency, local pressur rather than the academic propriety were the guidin principles in the setting up of universities in tha state." The position is no better in most of th other states.

It is disheartening that University Grant Commission as well as the state governments hav been unable to stem the tide to any appreciable ext ent. Being a state subject the framers of the U.G. Act were very cautious in investing the U.G.C, wit the requisite authority in this regard. According t Section 12(f) of the U,G.C. Act, 1970, it has bee laid down that the University Grants Commissio may "advise any authority, if such advise is asked f on the establishment of a new university or on pr posals connected with the expansion of the activ ties of any university". This clause being of non-mandatory character has resulted, in quite a fe cases, in the universities being set up without pri consultation with the U.G.C.

The representative of the U.G.C. in his testimon to the Estimates Committee of the Parliament (196 66) pointed out that since the passing of the U.G. Act in 1956, six universities were set up witho consulting the U.G.C. In the case of another universities, the state governments did consult t U.G.C. but established them either in spite of t disagreement of the Commission or while st considering the question.

The Amended U.G.C. Act, however, provides th "no grant shall be given by the Commission or a other organisation receving any funds from the Ce tral Government, to a University which is establish after the commencement of the University Gra Commission (Amendment) Act, 1972 unless the C mmission has, after satisfying itself as to such matter as may be prescribed, declared such university to be fit for receiving such grants". The Central Government has also issued a notification specifying conditions for the eligibility of universities to receive U.G.C. grants. These conditions include providing justifications for facilities for the new university on the ground of inadequacy of facilities for higher education in the area, special features of the university, or programmes for the upliftment of backward areas or removal of regional imbalances and other conditions.

These regulations are undoubtedly steps in the right direction. Their impact on the proliferation of the universities is, however, uncertain. In any case, these regulations are negative in character and are likely to hit the students and the staff more than the authority that establishes the university. The question of establishment of a university should be based primarily on academic considerations and the assessed needs of professionally trained manpower in different states. How far the Commission or the central government is cmpetent to assess, with some degree of precision, these twin objectives is open to serious doubt. The withholding of grants by central organisation in a subject, which is constitutionally well within the responsibility of the States, might cause resentment among the States and the U.G.C. will hardly be able to withstand the political pressure that is likely to be exerted on it as a result of the denial of central assistance to the university established in the states without its prior approval. The amended Act seems to ignore the politico-legal implications of this question.

In the context of the present situation in country, the U.G.C. should evolve a procedure of working in conjunction with the state authorities. A convention may be established under which consultations are held with the U.G.C. even at the time of forming out proposals for the setting up the new university. The Planning Commission which is concerned with overall priorities in education as also other sectors of development should also be associated with the initial scrutiny. The U.G.C. may also lay down specific guidelines in consultation with the state government for processing such cases. In fact, cooperation, rather than confrontation, should be the guiding principles of central policy in this regard.

Affiliation of colleges

Allied to this, is the problem of setting up of colleges, which are responsible for over 80% of the enrolment of the universities. Here also, the motivation of setting up of the institutions is sometimes extra-academic and situation calls for an effective remedial action.

One way of checking the mushroom growth of collegiate insitutions is through the tightening of affiliating procedures. At present, the universities and the state governments have laid down rules about reserve fund, buildings, teachers and other requirements,which must be fulfilled before a college can be granted affiliation. These rules are however respected more in breach than in observance. It is essential that these rules should be realistically framed and meticulously followed. There should in fact be a national consensus on the minimum requirements that a collegiate institution must fulfil, before it can be considered for affiliation. In this task, the joint endeavours of the U.G.C. and the state governments would be helpful.

A controversy that has often arisen is whether the final authority to grant affiliation should vest with university, which has to have academic jurisdiction over these institutions or the state governments, who are to be responsible for their maintenance and development. The best course appears to be that the setting up of colleges should be the joint responsibility of the states and the universities. Here also the U.G.C. should help the universities in drawing up definite policy guidelines for assessing the educational needs of area, identifying the potentiality of the existing institutions to meet the need and locating the availability of the academic infrastructure- This joint endeavour alone can curb the mushroom growth of these institutions, with dubious educational standards.

At this stage, it is neeessary to sound a note of caution. Affiliation should not mean subordination of the institution to a superior all knowing body which can direct its programmes through remote control. It should mean participation of the university and the colleges in the joint endeavour of providing educational facilities of the requisite standards to the seekers of knowledge. Unfortunately, at present the collegiate institutions are considered inferior in the academic hierarchy, who have to be guided from above in the determination of courses of study, selection of faculty and students and other academic matters. These institutions have little freedom to choose even their methods of teaching and evaluation of students. In the interests of higher education, this academic serfdom should be ended. The colleges should be given much more freedom in the determination of courses of study, selection of staff and students, methods of teaching and evaluation etc. The author is not very much enamoured of the idea of autonomus colleges sponsored by Education Commission. Creating a few islands in the vast ocean of educational subjugation is not likely to solve the problem of higher education in India. The need is to change the mental make of the university authorities so that they do not look upon the colleges as organisations to be tied to the charriot wheels of the universities. They should be considered equal and their voice given due respect in the furtherance of educational objectives. ●

Educational Technology and Higher Education

D. R. Portia*

Technology has been defined as the systematic application of scientific or other organized knowledge to practical tasks. The essence of technology lies in the organization of knowledge for systematic application of specific tasks. "Educational technology is the application of scientific knowledge about learning and conditions of learning to improve the effectiveness and efficiency of teaching and training. In the absence of scientifically established principles, educational technology implements techniques based on empirical testing to improve learning situation". Today these scientific principles are being applied to various aspects of education like curriculum preparation, teaching learning process, and asessment and evaluation introducing many novel devices both software and hardware thus changing the traditional concept of teaching. This application of scientific principles to instruction process can be also called instructional technology.

Educational technology is often associated with the use of Audiovisual aids but as was said by Kenneth Richmond it is not just another name for audiovisual aids. Robert A. Cox correctly defined educational technology when he said that "the vast amount media of communication that is coming up now a days has created the necessity of planning, implementing, analysing and evaluating their application to education process and for structuring the use of media into learning environment by the application of scientifically derived information process. This application of scientific process to man's learning conditions, is what has come recently to be called 'Educational' or 'instructional' technology. However the term educational technology still needs clarification. Educational technology is the application of the principles and techniques of industrial training, the methods of instructions that are used in the industrial training to the process of education. The need for educational technology has come about 'because of the ever increasing demand for more and more technical education and training, partly through research and developments in our understanding of how people learn and partly through audiovisual aids to learning, which include the use of modern media such as films and television." The same principles of training came to be adopted to education because of the same developments taking place in the field of education like the explosion of knowledge, expansion of educational opportunities, introduction of various types of mechanical devices. All these require systamatic principles of instruction based on sound research. Especially the vast amount of mechanical and audiovisual aids that are at the disposal of the classroom teacher require special treatment and techniques. In the West the oft quoted criticism is that the changes in education are not on par with the technological advances with the result that education system is becoming obsolete and outdated.

Educational technology is also criticised for intruding rather too much into the field of education that the decisions regarding education are slowly slipping away from the hands of the educationists into those of salesmen and producers of the mechanical gadgets and devices. A glance through the innumerable brochures advertising aids to teaching and learning will leave no one in any doubt about the high pressure, of salesmanship which is seeking to convert the classroom into a "mechinne a enseigner." It is also criticised for dehumanising the learning process, for the vast amount of expenditure involved and for its unsystematic and uncontrolled application. "Its applications have been piecemeal, haphazard and uncoordinated and the results obtained have proved disappointing". This criticism is true to some extent but not so much with regard to your country because we are yet to make a beginning in educational technology. Its impact no doubt can be seen in the industrial and technical training institution where the maximum benefits are being derived out of its use.

The need for educational technology today is very great. The scene of education today is a confusing picture. The amount of information possessed by the school going child as a result of his exposure to various types of media, is something which was beyond the imagination of the school boy of yester years. The sources of learining today are varied and numerous and the idea of classroom and the teacher is slowly fading away. The movie, the T.V., the radio the printing press etc. have widned the horizons of the school going child who began to possess quite a lot of unsystematic knowledge and this makes us depend no more on the conventiona methods of teaching and organizing th content. Under these circumstances it is only educational technology which can control and direct the learning process in a given direction In all the learning situations provided by educational technology like programmed learning, teaching machines, systems approch or curriculum package we find three common elements. They are (1 spelling out the objectives; (2) defining the mod of attaining the objectives and (3) evaluating th outcomes in terms of these objectives. Thes elements have got potency and power to contro and direct the growth of knowledge in a given direction. Besides they are all self instructional devices containing the elements of feedback and self correction. The role of a teacher under these circumstances is that of a guide or director, directing the learning process. It does not mean to say that the role of the teacher in the classroom is reduced. On the other hand his responsibility to ensure the maximum result out of the learning situation has grown to a greater extent and he is expected to know even more about his subject, be well conversant with the principles of classroom management and modern psychological principles to cater to the individual needs and differences.

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*Lecturer in Education, Andhra University.

The impact of educational technology is also seen in the practices adopted by modern school teacher especially at the secondary school level. Some of them are goal defining, flow charting, model building which are very useful in imparting a complicated mass of information. Goal definition will not only facilitate the pronouncing the end results but will also enable the teacher to define the media involved to achieve them. "For effective and efficient progress, goals must be clear, unequivocal and stated in terms which express exactly what is to be done. Although some learning takes place merely as a natural consequence of living, desired learning is unlikely to eventuate without some direction and the probability of intended achivement is low without any guidance." Flow charting will enable the pupil to organize the complex material or an activity which involve complex tasks into meaningful and sequential parts which will result in easy and efficient understanding of the matter. The importance of model building in the education process need not be over emphasized here. It is designed to provide realistic practices for pupils in both knowledge and skills and thus simulate conditions with life like experiences and can give an immediate feedback and results. If we analyse all these techniques we find the following common elements.

1. The definition of learning objectives.
2. The specification of criteria for the achivement of these objectives.
3. Analysis of the structure of the subject matter, process, skills or tasks to be mastered.
4. Analysis of sequence to be followed in terms of interest, nature of the subject matter, process or skill or task.
5. The use of feedback to ensure that instructional systems are largely self correcting.

Of course it is very difficult to define and use the techniques defined in the use of mechnical devices and apply them in the teaching abstract subject content. But it certainly ensures efficiency of teaching if the teaching process is arranged in the framework mentioned above.

The only method of teaching which is being successfully used in the undergraduate and postgraduate classes is the lecture method, the utility of which is indisputed. But this order is changed now. Today the teacher of higher education is baffled at the explosion of information in his own field which he has to control and direct giving it as much precision and accuracy as possible. For this he has to depend necessarily upon the techniques of industry and management.

Secondly the policy of equalization of educational opportunities must be viewed in all its pros and cons. It not only resulted in the tremendous increase in the pupils craving for seats in the colleges and universities but also introduced the element of heterogeneity. The teacher of higher education today has to face pupils with various socio-economic backgrounds and different intellectual levels as against the homogenous group of manageable number in the past. It really requires scientifically analysed techniques to deal with such diversified interests. The management techniques will definitely help teachers of higher education in this respect.

Curricuium Development is an important area which has peen hitherto neglected in higher education. If we question any teacher of higher education about the preparation of curriculum in his own field his replies will reveal the inadequacies in curriculum preparation. It is mostly making changes here and there in the existing curriculum. There is no systematic planning of curriculum. Today curriculum development has become as technical a subject as engineering and technology. This is because the importance of relating the curriculum to the needs of the pupils in the modern society at all levels has been realised more than ever before. All this requires well defined techniques to design the curriculum on proper lines. Many attempts have been made in this direction by educationists, like Hilda Taba, Tyler etc who have given a design for curriculum preparation for Elementary and Secondary School. According to them curriculum development, constitutes the following steps in general.

1. Analysing the needs of the pupils in the modern society.
2. Formulation of suitable objectives in terms of the society and the individual and the subject matter, which should be in line with the national objectives,
3. Selection and organization of content in terms of the above.
4. Selection and organization of the suitable learning experiences like teaching aids, devices, instructional procedures, in order to achieve the objectives.

5. Evaluation of the curriculum which should give a feedback. This plan shows that curriculum development is a complex undertaking which involves many kinds of decisions. Decisions need to be made about the general aims which schools are to pursue, about the more specific objectives of the curriculum, and about the specific content to be covered in each. Choices must be also made about the type of learning expriences with which to implement both the content understandings and other objectives. Decisions are needed as to how to evaluate what students are learning and the effectiveness of the curriculum in attaining the desired ends. And, finally, a choice needs to be made regarding what the overall patterns of the curriculum is to be. These decisions will have to be taken at various levels by various sections, the Government, the subject experts, curriculum specialists, teachers, parents etc. This is a complex process which requires careful designing based on well defined and empirically tested techniques evolved out of systematic research.

The system analysis is nothing but a systematic way of indentifying goals of any system and scientifically defining different steps in order to achieve these goals. Most of the teachers are not aware of these techniques and development, in the curriculm preparation. They are not even aware of teaching a particular subject and they have no guidelines or devices at their disposal to relate the curriculum to the overall national objectives.

The system's approach has been borne out of necessity because of the overwhelming size and complexity of the problems arising in modern industry. It facilitates the dividing and grouping of subject matter, or a complex activity into small subsystems with a separate function which interact with each other and serve a common purpose. Usually the system's approach consists of the following steps.

a. Examining the relationship of the existing situation to wider system

b. Defining the objectives for the desired situation.

c. Determining the criteria for their assessment.

d. Analysing various means and ways of attaining the objectives

e. Choosing the best alternative

f. Detailing out the design of the system

g. Working out the mechanism

The above can be applied successfully to curriculum preparation. The subject content of particular subject will be examined in the context of the national goals and needs. Then they will evolve and define the objectives of their subject: As a next step they will again define and subdivide the content according to the stipulated objectives. Next they will determine and define the criteria to asses them. After doing this they will find out the means and ways of achieving these objectives. In other words they will select and analyse the various learning experiences in terms of the content as well as teaching techniques, methods and activities to achieve the stipulated goals and finally evaluation of each subsystem which will supply them with feedback. Curriculum prepared on this model will be more meaningful and functional and bears a relevance to the national needs and objectives.

A classroom lesson also can be planned on this system analysis and be delivered very effectively by a teacher. Broadly speaking the lesson plan of a teacher may be like the following.

1. Finding out the entering behaviour of the pupils.

2. Analysing and defining the instructional objectives of the lesson. This will be based on the pupils, the content and the society.

3. Finding out the various learning experiences both in terms of the content as will as the other experiences like teaching aids, activities and teaching techniques in order to achieve these objectives. They also include feedback techniques.

4. Examining them in terms of pupils abilities and needs and selecting the suitable ones.

5. Evaluation and assessment which give an overall feedback (Or Testing the terminal **behaviour**).

Thus this system's approach can be applied to various aspects of educational process. Beginning with the preparation of a lesson plan or group activity to finding out a solution for a complicated problem like admission of students, devising courses, preparation of a time schedule for a class etc.

One of the outstanding contributions made by educational technology to the theory of instruction that require special mention is that of goal definition in the process of instruction. In fact goal definition has always been there in education. But modern trends in education lay emphasis on defining the objectives in operational terms or the statement of objectives in clear functional terms stating explicitly what exactly

(*Contd. on page* 357)

Restructuring Education at the plus 3 level

The Maharashtra Academy of Science constituted an Education Committee under the chairmanship of Prof. B. M. Udgaonkar, to review the entire aspect of school/university education and to consider the question of restructuring of the educational system. The committee submitted its interim report relating to the higher secondary stage in March 1976. Soon after the Maharasthra Government's decision that the +3 programme will be an integrated 3-year degree programme and that it will not be broken up into 2+1 the committee finalised its report in respect of university education. The committee took stock of some of the ideas and suggestions of various reports of the University Grants Commission including those in the recent reports of the U.G,C. committee on linking education with work experience/field work/practical experience/productivity and the U.G C. committee on rural reorientation of the first degree courses, as also the recent recommendations made by the committee appointed to consider restructuring of courses at South Gujarat University. As a result of these discussions an approach paper was prepared and discussions were held under the auspices of the Academy at Aurangabad, Bombay, Kolhapur, Nagpur and Pune. A one-day seminar on restructuring of courses at the +3 stage was held at Pune in which Vice-Chancellors of different universities in Maharashtra, Deans of Faculties, Director of IIT, Bombay, Director of TISS, Director of Higher Education, Maharashtra as well as Director of Secondary Education, Pune participated. After these discussions the committee formulated a basic pattern for the consideration of the academic community. Some of the salient features of this report are reproduced below :

Basic considerations

The Committee is of the view that the introduction of 10+2+3 pattern gives us a unique opportunity to have a fresh look at the objectives and structure of our degree level courses and to reorganize them. The need for such restructuring so as to make the courses relevant to the needs of our Society, has indeed been felt for a long time. It is the opinion of the Committee that this opportunity should not be lost and the Committee has therefore, tried to redefine the objectives of the degree level courses and to propose broad outlines of a restructured course pattern for the consideration of the academic community.

While submitting this report the Committee recognizes that in order that the restructured courses become effective it is necessary that the approach and attitude of the students as well as the teachers at both the '10' and the +2 stages, require considerable reorientation. In fact, if the first stage, i.e, upto the 10th standard is not adequately strengthened and given proper reorientation and restructuring to motivate the students, restructuring of courses and attitudes at the higher levels would not produce the desired results. The Committee has so far addressed itself to the problems of the '+2' stages and has in this report considered restructuring of the '+3' stage. It realieses that a similar effort for the '10' stage is necessary and it proposes to undertake this main task pertaining to the 10th stage.

The Committee is aware that some of the changes in structure that are suggested in this report, will require considerable preparation. The Committee wishes to stress that the proposed restructuring should not be undertaken without adequate preparation of the teachers, the course material and the other back up facilites referred to later. These changes could therefore be introduced only over a period of time in a phased manner as and when a university or a particular faculty in the university is ready for such a change over. Hence, if the structure suggested is considered desirable the university may adopt a flexible approach, which is so designed that whatever pattern it considered feasible for immediate introduction in June 1977, it does not become an obstacle to these changes considered desirable in the long run (i.e., over a period of about 5-10 years). From this point of view it is suggested that the university may adopt a new policy of prescribing only 80% of the courses/papers, leaving the remaining 20% to be workd out and proposed by the colleges. The grading for this 20% component of the course requirements may be left entirely to the colleges, so as to encourage them to innovate. In fact, without such freedom to innovate and a departure from the rigid uniformity of the present pattern, we may not be able to break new ground. In the beginning some colleges with adequate infrastructure may be chosen to try out this restructured pattern of courses, and their experience utilized for adopting the new pattern on a wide scale.

The Committee considers it necessary to emphasize that the course pattern should be designed from the point of view of the vast majority of students (80-85%) for whom the first degree is terminal. The first degree course must not therefore be formulated as a mere preparation for a postgraduate course. On the other hand, in the pattern suggested by us, the student is expected to acquire depth in atleast one subject, which is not only important for his intellectual training but should also enable him to proceed to post-graduate studies if he so desires, and is intellectually capable for it.

The proposed pattern has tried to emphasize the role of projects, field work and self study programmes. In particular, it is necessary to recognize the importance of problem solving and seminars in the case of the sciences, and case-studies discussions, and seminars in the case of social sciences. There should therefore be adequate time allocated in the time-table for tutorials, seminars, self-study sessions etc. It is suggested that formal lecturing should not constitute more than two-thirds of the teaching-learning situation.

While this may mean a reduction in the formal lecturing load of a teacher, the work involved in conducting tutorials/seminars/guided reading field work etc., must be duly taken into account in defining the work load of the teacher. This aspect needs to be emphasized as an improper approach to defining the work-load of a teacher leads to the erroneous conclusion that if the number of hours of formal lecturing is reduced, the number of teachers aslo need to be reduced. The new pattern only changes the nature of the work load and not the total load, and hence would not lead to retrenchment of any teacher. In fact, it requires the teacher to put in more hours of self-study and preparation for a formal lecture.

Objectives of a restructured course pattern at the first degree level

1. To provide a broad-based education to the student so that, after his training, he emerges as an informed and mature person who is sensitive to the world around him and is able to follow the debates on current issues and to take an educated and objective stand on them.
2. To so structure the curriculum in the faculty/field of specialization that, while acquiring the latest available theoretical knowledge in the field, the student is also exposed to some application areas and made conversant with the real life issues that will face him when he embarks upon his career as a professional person in general to bridge the gap between the 'world of work' and the 'world of study'.
3. To sensitize the student to an interdisciplinary and problem oriented way of approaching and handling situations and issues.
4. To enable the student to acquire self-study habits which will enable him to add to his intellectual equipment and skills throughout life.
5. Within this broad acaddemic framework, to focus attention on issues of social transformation in general, and rural and regional development in particular, so that academic excellence and concern for social relevance may go together, and the academic community may make its contribution to social change.

Broad outlines of a proposed restructured course programme

Such a programme is shown in the **annexure**. It has the following salient features:

Every student, whether in Science, Humanities, Social Sciences or Commerce, will take

(a) A certain set or *Foundation Courses* or *Awareness Courses* such as
   i) Scientific Method (Philosophy, Attitude and Methodology of Science)
   ii) Science, Technology and Development
   iii) Elements of Social and Economic Life in India
   iv) History of Civilisations (including the history of freedom struggles in Asia, Africa and L. America),

(b) A *core programme* within each faculty which provided the student with
   i) a broad exposure to several disciplines
   ii) an opportunity to study some chosen discipline in depth, and

(c) Some applied or rural-oriented studies/projects field activity, as a necessary and integral part of the programme in the final year.

It may be noted that the scheme envisages that on the whole seventyfive percent of the student's time would be devoted to disciplinary subjects, some being studied in depth, or others being studied for breadth, and that twenty-five percent of the time would be devoted to broadening his perspective in general. Thus enabling him to undertake some interdisciplinary studies and applied projects, and to contribute to the development of the society as an educated citizen, this should help bridge the gap between the 'world of study' and the 'world of work'.

The Committee envisages that it would not be necessary by and large to appoint new teachers to teach the new courses that are proposed, in particular the Awareness Courses or the Applications-Oriented courses. Nor would it be necessary to retrench the existing teachers, especailly if as suggested in the 1st report, the school and colleges are treated as part of an integrated system of education. It is expected that it should be possible for the existing tecachers with suitable reorientation programmes, to give these courses. There will however be some need to invite experts from industy or national laboratories to help with some of the courses, especially in the beginning.

Fortunately, there are srveral national laboratories in Maharashtra, and there are also a wide variety of industries whose assistance should be sought in this regard.

It is to be emphasize that the teachers will have to be provided opportunities for advanced studies so as to equip them for the new type of courses contemplated, and to enable them to prepare new course material. The universities will have to organise workshops/refresher courses/summer institutes etc. This should be possible under the various existing programmes of the UGC. The teachers should be encouraged to make use of the opportunity provided by the Faculty Improvement Programme of the UGC to spend a whole year or more at a centre of advanced learning away from their normal teaching in order to equip themselves for meeting the challenge of change.

It is envisaged that UGC/universities will have to embark upon a programme of production of new curricular material for some of the new courses.

The restructured course programme, especially during the last year, presupposes a fair amount of interaction between the university/college and the community around it. This will be necessary, not only for the success of both the applied courses and the field work programmes, but also for making the theoretical content of various disciplines rooted in the social reality. The success of the new programme requires that the business and industrial enterprises, rural agencies and the Government should co-operate with the universities/colleges by extending support in terms of specific surveys, field works and other projects of interest to these agencies, which may be assigned to the universities/colleges for execution.

The Committee feels that in the application-oriented component during the third year, teachers and students should be encouraged to undertake projects of interest from the point of view of integrated development of the rural community. It would be necessary to provide some incentives to the teachers and students, so that they may undertake such projects in large numbers.

The Committee feels the need to emphasize that for the students to undertake such projects of social benefits to the community at large, the students need to be conditioned to these ideals from the very beginning in their early formative years in the school upto the 10th stage. This will require as indicated earlirer a conscious and determined reorientation in the approach to the education upto the 10th stage.

Examination reforms will have to go side by side with curricular changes. In particular, introduction of various interdisciplinary or application-oriented courses or field-work and other projects. will call for considerable innovative thinking in each college, taking into account its special situation. For such courses, therefore, it would be desirable to have a minimum control from the University, and once a course outline has been approved by the university, to leave the detailed design and assessment, with the college.

Other related aspects

While considering the introduction of restructured pattern of courses it is essential to take cognizance of other related aspects. A few of the more important aspects are listed and discussed :

(a) There must be some component in the curriculum which requires every student to use the library for reference work. Once such a component is introduced, it will define directions in which the college library may have to be strengthened in non-text-book directions. This requires that adequate facilities including books and technical periodicals are provided at College/University level.

(b) Innovation cannot be done simultaneously in all colleges. In order to encourage innovation, the State Governments may be requested to adopt a special grant-in-aid policy for selected colleges. where a certain extra amount (over and above the core support) is made available to a college as a part of the maintenance grant on the basis of an innovative scheme that it may submit and get approved.

(c) It would be desirable to introduce some components in the course programme, which involve group study or co-operative team study (e. g. through a project or field work). Rural Development should be a broad project area for all faculties, with students from different faculties working together in a team. In fact, students from different faculties should be encouraged to undertake rural development projects at the +2 level itself.

(d) Life sciences should remain integrated atleast during the first year, and preferably in the second year also. There are several topics, such as, cell biology, biochemistry, genetics and ecology, which could be taught in common to the students offering the subject and who may later want to specialize in the individual subject of botany, zoology or microbiology.

(e) Earth Sciences is an area which has been rather neglecred in the State, and steps must be taken to encourage programmes in Earth Sciences in more colleges/universities so that one may generate the necessary manpower for survey and exploitation of natural resources in the State. The Earth Sciences programme in the first year must have a substantial component of geology, geochemistry and geophysics, the details of which may be worked out in due course by a sub-committee of the Academy.

(f) Physics, Chemistry. Earth Sciences and or Life Sciences, in first year should be aimed at giving the student an integrated over-view of what he has learnt upto class XII, within a discipline and across the disciplines, as well as at giving him a preview of the frontiers where Physics, Chemistry, Earth Sciences and or Life Sciences have developed--a glimpse of the frontier which everyone should know.

Another way of looking at the Physics, Chemistry, Earth Sciences and or Life Sciences courses during the first year is in terms of interconnections and mutual penetrations; e.g., the Physics course could include Atomic Physics with simple ideas of wave mechanics for determination of Atomic and Molecular Structure, and Thermodynamics with its applications in physics as well as other disciplines. These would be of interest not only to the Physics student but also to the student of Chemistry or Earth Sciences or Life Sciences. Similarly, Chemistry would include topics which go under General Chemistry, in particular, Chemical Bonding and Molecular Structure, Chemical Thermodynamics and Kinetics and Mechanism of Chemical Reactions, and possibly some nuclear chemistry. Life Sciences would essentially deal with life (plant and animal at the cellular and molecular levels, whereby the Physics and Chemistry students would also discover how their subjects have enriched the Life Sciences. Similarly the earth Sciences would deal with the early geology of the earth, the differentiation of the mineral (chemical compounds) and the formation of ore bodies, enabling the students of chemistry and physics to realize the extent of interaction of these fields, as well as permitting the students of life sciences to get an insight into how life began and evolved over geological times.

(g) If grading is considered difficult for a given new course, mere pass/fail grading may be undertaken without hesitation. Starting in this way would be better than not starting at all. Even assuming that in that case such a course may not be taken seriously by some colleges/students, it will still help create awareness among students/teachers.

(h) Outside community will have to be involved as part-time teachers for some of the optional applied / field - oriented courses. Also, the community resources should be utilised for giving practical experience to students. Unfortunately, even though Maharashtra has a large number of national research and development laboratories, and a wide variety of industries, very little use has been made by the universities/colleges of these resources of the conmmunity for educational purposes. Time has come to make special efforts in this regard. This will need some help from the State both in order to persuade the industry to help in education as a matter of policy, and to prevail upon the university/colleges to avail of this help from the R & D laboratories and the industry.

(i) All chemistry students must have the necessary background in physics and mathematics. In the absence of such a requirement, one encourages the student in wrong habits and attitudes—mugging formulae and explanations without understanding -- which go against the spirit of science.

(j) Private candidates may be allowed, wherever posible, this will reduce the unnecessary rush on full-time courses.

(k) Movement of students from one faculty to another at the M.A. level should be encouraged.

(l) A credit system may be introduced so that a student may be able to make maximum use of the flexibilty offered by the scheme.

(m) Some special suggestions with regard to language and history courses have to be made.

Language courses

(i) Language must be taught as a means of communication rather than as a mere study of literature. By the time the student passes Class XII he should really have acquired the facility to express himself clearly and concisely in English and in a regional language as well as comprehend without difficulty books and journals published in English in the disciplines of interest to him. This unfortunately is not the case today and it is essential to have a fresh look into the manner in which languages are taught at various levels. In the meantime, it well be necessary to provide a course in English during the first year of the three-year degree course. The needs in this regard may however be different in different regions of the State. Moreover, since all students are expected to have the foundation courses during the first year and some social science courses in the second year, they would thereby have an opportunity of improving their languge ability. Further, the science students by and large study science through the medium of English at classes XI and XII, a case may therefore be made for not having a separate course in English for science students at the +3 stage beyond the Ist year. This however is a matter for each university to consider in relation to its specific needs.

(ii) While teaching a language, one can also teach a variety of themes, especially themes with social change in view: e.g. Democracy / Secularism/ Social Change/Social History through Literature / Problems of the underprivileged sections of the society, as depicted in their literature / Impact of Modernization on Literature/ Literacy & Adult Education/ Contemporay Novel / Drama and Collapsing Traditional Valus, etc.

(iii) One should reduce the emphasis on foreign authors, and include some translations of classics from other Indian languages; this will help promote national integration. Even among foreign authors, one should include outstanding writers from a wide spectrum of countries, including other developing countries through the translation of the original works, and not confine oneself to English or American authors.

History Courses

(i) One may reduce the emphasis on British and European History, and include History of neighbouring countries or other developing countries in South East Asia, Middle East, Africa and Latin America. Also, History of China and Japan.

(ii) History may be taught around some themes rather than around periods of time in different countries. The orientation could be to study history of European Renaissance/ History of Freedom Movements / History of Indian Renaissance / History of Imperialism/Colonialism/New Colonialism/Industrial Revolution and its impact on Hisiory/Economic and Social History/History of Science and Technology, etc.

Annexure

A draft outline of the courses in Sciences, Humanities, Social Sciences and Commerce is given below. It is however to be emphasized that these are broad illustrative outlines, whose purpose is to stimulate thinking and help concretise the general ideas expressed in the preceding pages.

Note : 1) Figures in brackets denote hours (clock-hours, not periods) per week devoted to a course; 3 implies a 2-semester course of 3 hrs. per week ; $\frac{1}{2} \times 3$ implies a 1-semester course of 3 hrs per week.

2) The science students would have a work load of 30 hrs/week. In the other faculties, the work-load would be 24 hrs/week.

3) Hours indicated include tutorials, practicals, seminars etc.

First year

(a) English† (3)

(b) Common Foundation Course‡ for all students (each for one semester : $\frac{1}{2}$ 4× ×3=6

- i) Scientific Method
- ii) Science Technology & Development
- iii) Elements of Social and Economic Life in India
- iv) History of Civilisations

(c) Faculty-wise courses

Sciences	*Humanities*	*Social Sciences*	*Commerce*
First year (contd)			
c1) Mathematics (4.5) c2) 3 out of 4 sciences@ (16.5) (Physics, Chemistry, Life Sciences, Earth Sciences)	c1) One of the subjects from Social Sciences(3) c2) Two selected laguages or One language and one more Social Science (2×6=12)	c1) Mathematics (3) c2) Four out of the Social Science subjects (3×4=12) (Philosophy, History, Economics, Sociology, Psychology, Political Science)	c1) Mathematics (3) c2) Economics (3×2=6) c3) Two more subjects (3×2=6) (e.g. Accounting, Business Administration, Statistics)
(Total teaching time 30 hrs)	(Total teaching time 24 hrs)	(24 hrs)	(24 hrs)

† The purpose here would be the improvement of language and communication, skills, not the study of literature. The desirability of dropping English, for science students may be considered (see remarks in the text.)

@ Out of these, Physics and Chemistry may also be compulsory for all students, the only choice being between Life Sciences and Earth Sciences.

‡ The material used may be different for science students and for the rest.

Second year

Sciences	*Humanities*	*Social Sciences*	*Commerce*
a) Three sciences ($3\times8=24$) b) Interdisciplinary (3) (enviromnent/energy/population and resources/marine sciences/history or science/computer seience/etc) or Instrumentation/laboratory techniques. c) One of the areas from the Foundation Courses for further study or literature (English or Indian language)	a) English (3) b) main language (9) (classical/modern Indian/English/modern European) c) another language (3) d) linguistics (3) e) Interdisciplinary (3) (e.g. Principles of Literary criticism; Forms of Communication ; Social History as seen in regional language Literature ; Ancient Indian Culture ; Impact or Literature on Society & Culture ; Appreciation of Arts and Crafts; Science and Ethics ; Philosophy of Science ; Science & Society etc.) f) One of the subjects from Social Sciences (3)	a) English (3) b1) Mathematics ($\frac{1}{2}\times3=3/2$) b2) Computer science or History of science ($\frac{1}{2}\times3=3/2$) c) main social science (6) d) three other social sciences ($3\times3=9$) e) Interdisciplinary (3) (e.g. Rural Development ; Urban Development & Planning ; Population & Resources ; Regional Planning ; Enviroment : Development & Growth Models ; Science & Ethics ; Philosophy of Science ; Science and Society etc.)	a) English (3) b) Mathematics (3) c) Economics, Accountancy, Business Administration ($3\times3=9$) d) Any one of the following : Sociology, Political Science, History, Philosophy, History of Science and Technology (3) e) Any one of the following : Accounting & Auditing: Banking : Statistics ; Insurance : Economics of Transport ; Agricultural Economics (3) f) Any one of the following : Economics of Public Utilities : Urban Development ; Farm Management : Agricultural Marketing , Community Development ; Theory & Practice of Cooperation ; Home Economics (3)
(24 hrs)	(24 hrs)	(24 hrs)	(24 hrs)

Note : One may consider different possibilities during the second year. with regard to Humanities and Social Sciences in particular ; e.g. for Humanities, one may prefer to have the two languages (b & c) on equal footing; or for social sciences, one may prefer to have two or three social sciences on equal footing.

Third year

Sciences	*Humanities*	*Social Sciences*	*Commerce*
a) one science discipline† (21) b) two out of a list of interdisciplinary/applied topics (including possibly a project**) ($2\times4.5=9$) e.g. Machine shop practice/Instrumentation ; Electronics/Instrumentation ;	a) main language (18)@ b) two out of a list of interdisciplinary topics (including possibly a project**) ($2\times3=6$) e.g. Values & Assumptions in Modern civilization ; Marxism ; Poverty ; Leadership ; Human Ecology ; Literature & Adult Education ; Literature	a) main discipline (18)@@ b) two interdisciplinary topics, (including possibly a project**) ($2\times3=6$) e.g. Alternative Development Strategies ; Values & Assumptions in Social Sciences;	a) English (3) b) Problems of Indian Economic Development (3) c) Mercantile Law (3) d) Business Administration (3) e) Any one out of the following (6) : (in continuation of 2nd year) Advanced Accounting, Auditing & Costing ;

Sciences	*Humanities*	*Social Sciences*	*Commerce*
Applied Nutrition & Public Health ; Horticulture ; Fisheries ; Soil-Science ; Agro-Chemicals including fertilizers, pesticides ; Dairy sciences ; Materials science ; Plant Projection ; Computer Science ; Linear Programming ; Vacuum Techniques, Chemical Instrumentation : Polymers ; Unit Operations and Unit Processes ; Heavy chemicals ; Drugs ; Dyes Textile Chemistry ; Natural products ; Marine Chemicals ; Energy Resources ; Water Resources ; Earth Sciences ; Chemistry of fuels ; Ceramics ; Forest resources ; Industrial Electro-chemistry ; Applied Optics ; Teaching of Science ; Science Communication (Journalism, Radio, TV etc.)	for the Neo-literates ; Mass communications, etc.	Marxism, Poverty, Leadership ; Linguistics ; Mass communication ; Local selfgovernment ; Human ecology ; trade unionism & Social Movements ; etc.	Banking ; International Finance ; Statistics ; Acturial Science ; Management ; Theory & Practice of Cooperation. f) Any two of the following (6) Ethics & Economic : Values & Assumptions in Social Sciences ; Community Development ; Strategies of Development ; Regulation of various Trade Practices ; Economics & Management of Small Scale Industries ; Human Ecology : International Economy and Economy Development, etc.
(30 hrs)	(24 hrs)	(24 hrs)	(24 hrs)

† Students may also be allowed the alternative of choosing two or three sciences instead.

** Atleast one project may be encouraged as far as possible ; Social service can also be an alternative here.

@ or two languages on equal footing.

@@ or two disciplines on equal footing.

Educational Technology and Higher Education

(Cont. from Page 350)

is to be done. If stated in operational terms it becomes possible to measure the degree of attainment of the desired performance. Since the student must do something to demonstrate that he has acquired the new ability, operational objectives should be expressed in terms of action, words such as device, solve, analyse, use, draw sketch, describe, identify, construct, classify, explain, demonstrate, state, charecterize, distinguish between, memorize and so forth. Such statement facilitates the defining of the corresponding learning experiences giving precision and accuracy to the learning process as well as the assessment of outcomes based on scientific precision. Though there is much confusion about these behavioural objectives and their application to education, they are definitely useful in manipulating and directing the vast amount of knowledge in a given specific direction.

There are many other software techniques, which can be used by a teacher to increase his teaching efficiency and getting the maximum benefits. To quote a few microteaching, mutual lectures, group discussion, role-playing and simulating, brain trust, team teaching etc. Every teacher is expected to make use of these techniques to get maximum benefit out of classroom situation. In a society based on science and technology which is changing at accelerated pace its education and its process also have to be changed to keep pace with it. Otherwise it will result in a big lag which will bring in confusion and chaos. ●

CAMPUS NEWS

Medical exams on schedule

Principal Ram Joshi soon after assuming the charge of Vice-Chancellorship of Bombay University appealed to students and teachers to cooperate with the university in holding the medical examinations which were scheduled to begin on June 11, 1977. The university was keen to take immediate steps to formulate principles and procedures for future guidance for the appointment of medical examiners in order to obviate any defects and the resultant grievances. He has also invited suggestions from all concerned in this regard.

The controversy concerning the appointment and subsequent requests for resignation from the university of some examiners had been highlighted by the members of the Bombay University Senior Medical Teachers Association. The Association had been formed to uphold certain principles like stopping malpractices, removing corruption and to end nepotism and abuse of authority. In spite of the resignations of a sizable number of examiners the university had been successful in arranging the medical examinations. Prof. Ram Joshi is keen to hold the examinations on schedule and at the same time is taking action to remedy defective appointments which would have resulted in further postponement of the examinations resulting in great hardships to students. Keeping in mind the interests of students, the Executive Council decided to maintain the status quo for these examinations. He has however promised that all irregularities would be rectified from the October examinations onwards.

Students for Senates

The Karnataka Government is likely to amend the Universities Act making elections mandatory for choosing student representatives on the Senates of different universities. The present Act provides for the nomination of student representatives to Senates by the Chancellor in consultation with the Vice-Chancellor. But it was not possible to effect nominations without causing heart-burns to students. The Education Minister, Shri S. M. Yahya, while presiding over the inaugural function of the Geology Department at the Bangalore University, said that the Government would announce the various nominations for the Senate, Syndicate and the Academic Council of Mysore University. The State Government had provided an opportunity to scheduled castes and scheduled tribes to participate in the university administration by giving them adequate representation on the university bodies. The State Government proposes to develop two postgraduate study centres in the rural areas, one near Sandur in Bellary district and another near Bhadravati in Shimoga district. The State Government had sanctioned a developmental grant of Rs. forty lakhs for the Mysore University besides Rs. one crore block grant. More matching grants would be available to the university provided the increased aid is forthcoming from the University Grants Commission. Mr. Yahya in his address emphasised the need to develop higher education with imagination so that it would meet the long term needs of the community. He called upon geologists to guide the Government in the long term strategies of mineral exploration.

New plans for agricultural development in Kashmir

A Development Review Committee under the chairmanship of Shri L. K. Jha, Governor of Jammu & Kashmir was set up to review the scheme for having an agricultural university in the State. During last ten years the scheme of setting up university has been framed and reframed. But it could not be implemented due to paucity of funds. It is now proposed to set up an institute of agricultural research and education. It is also proposed to set up krishi vigyan kendras throughout the State. In view of the climatic conditions especially in Kashmir division where snow, frost and floods put severe constraints on crop production, conventional cropping methods need to be replaced by ideal practices to ensure increase in per unit yield which has remained stagnant during the last ten years. Consistent research work is required to change the cropping practices wherein sixty per cent of the cropped area continues to produce only one crop. The Development Review Committee has also suggested that the total area under forests is below the national norms for hilly States. It has stressed the need for promotion of farm forestry for increasing the forest areas. It would be appropriate if the State takes to the three-dimensional forestry programme started in Himachal Pradesh. Under this programme plantation is based on growing food yielding trees for cropping purposes and the use of their products for the feeding of livestock which ensures development of dairy industry. It has been suggested that the Institute of Agriculture should provide training programmes relating to farm management studies, growing forests under rainfed conditions in Ladakh, research on all aspects of crop-livestock-fish integration, contingency and alternative cropping strategies for flood and droughtprone areas, post-harvest technology and strengthening the ecological infrastructure for sustained agricultural advance. The committee has appreciated the progress made in fruit production. It has envisaged greater marketing difficulties for which it has suggested marketing facilities at terminal markets, direct haulage of fruit from orchards to consumer centres.

rail haulage for long distances and improvement in transport services.

Capitation fee regularised in Karnataka

Mr. S. M. Yahya, Minister for University Education, announced in Bangalore that the Karnataka Government is going to regularise the collection of capitation fee by both aided and non-aided engineering colleges in the State with effect from the current academic session. The Government has considered the report of a committee set up in January last in this connection.

The State Government has permitted the non-aided colleges in the State to levy a capitation fee not exceeding Rs. 5,000 per seat for candidates of Karnataka, for all seats both within their discretionary quota and merit quota. For candidates outside Karnataka the capitation fee would be Rs. 10,000.

The aided colleges have been permitted to fill 20% of their intake through discretion by levying capitation fee not exceeding Rs. 6,000 per seat, while the government would fill up the 80% of the seats on merit. Non-aided colleges would fill 60% of their intake by discretion, while the Government would select the remaining quota of their intake on merit subject to the payment of capitation fees.

Gauhati computer centre inaugurated

The latest computer model TDC 316 has been installed in the Physics Department of Gauhati University recently. The computer has been obtained with the assistance of the University Grants Commission. A sum of Rs. thirty lakhs has been provided for this purpose. In the second phase of development additional peripheral facilities would be provided at an approximate cost of Rs. ten lakhs.

Shri L. P. Singh, Chancellor of the University, while inaugurating the centre, emphasised the need for computers not only as a research tool but also for data processing of different institutions and organisations in the entire north-eastern region. He wanted the full utilisation of the services of the computer of the neighbouring areas.

Dr. H.Baruah, Vice-Chancellor, expressed his gratitude to the University Grants Commission for providing such a sophisticated equipment which would go a long way in the intensification and expansion of the research programmes in the eastern region of the country. He emphasised the need for precision in analysis of scientific data. He said that the computer should not be left with idle hours but it should be an active tool for stimulating in-depth studies on different problems.

New pay commission for non-teaching employees in West Bengal

The West Bengal Government has appointed a pay Commission for the non-teaching employees of the universities in the State except Visva-Bharati which is a central university. Mr. Justice T. Mukherjee, a former judge of the Calcutta High Court would be its President. The other members are Dr. S.K. Mukherjee, Vice-Chancellor, Calcutta University, Dr. A.N. Bose, Vice-Chancellor, Jadavpur University, Dr. P.C. Mukherjee, Principal, Presidency College and Mr. J.L. Kundu, former Finance Commissioner, Govt. of West Bengal. Mr. B. Sanyal of the Education Department will be its Secretary. The appointment of a Pay Commission in place of the Pay Committee, appointed earlier under the Chairmanship of Mr. Justice P.B Mukherjee, to review the pay scale of the non-teaching employees of seven universities in West Bengal, was one of the conditions agreed upon by the State Government to resolve the 35-day old strike of non-teaching employees of the universities.

Welfare schemes for Magadh

The Magadh University has recently initiated a number of schemes for the welfare of the students and the teachers. Dr. P. Dayal, Vice-Chancellor, said that the university would be constructing two hostels for its students at an estimated cost of Rs. thirteen lakhs. A shopping centre within the campus would also be provided. A sum of Rs. 3.5 lakhs has been provided to the constituent colleges for improvement of the science laboratories. The Mathematics and Chemistry departments of the university have been selected under the faculty improvement programme of the UGC. Ten teachers in each department would be awarded teacher-fellowship for conducting their research work.

Science Museum

Baroda will soon have a science museum—on the pattern of science museum in Calcutta. The proposed museum would lay special emphasis on petroleum and chemicals, space technology and electronics. Baroda Corporation is busy drawing detailed plans for this project which will go a big way in popularising science and technology in the general public.

Personal

1. Shri P. S. Majumdar has taken over as the Vice-Chancellor of Assam Agricultural University.
2. Dr. G. S. Sekhon, Prof & Head of the Department of Soil Science, PAU, has been nominated by Govt of India, as the representative of the agricultural universities on the Academic Committee of the National Productivity Council.
3. Dr. V. N. Singh has been appointed Registrar of Patna University.

SNDT curriculum reorganised

(From our Special Correspondent)

The Shreemati Nathibai Damodar Thackersey Women's University, an all-India university with its central seat in Bombay, has attempted some academic reforms while restructuring its dergee courses under the uniform pattern of education.

The university has 23 colleges under it and offers courses in the faculties of humanities, social science, home science, commerce, fine arts and nursing. Each course in each faculty is redesigned to have four components. The core component has two objectives to achieve. The first is to give students a language tool to facilitate understanding of the other components and the second is to avoid a cultural void due to specialisation. English is compulsory in all the three years of the degree course and at places where girls cannot study English, an alternative course in Hindi or a composite course in English with a modern Indian language is offered.

When the university was founded, the medium of instruction accepted was the mother-tongue of students. But English was also taught as a compulsory language of learning. Now the university offers instruction in four languages — English, Hindi, Gujarati and Marathi. Commerce and Nursing, being professional courses are taught only in English, while the other subjects are taught in any of the four media.

The core component, besides English, also consists of two other subjects to meet its second objective of bridging the cultural gap. They are 'modernisation of the Indian society', and 'family life education.' They are not new subjects as far as the university is concerned, as it had been teaching similar subjects right from its inception. Subjects like domestic science, physiology and hygiene, which were compulsorily taught to girls earlier are integrated and redesigned to include the modern developments in the areas while introducing the two papers.

The discipline and the applied components go together. Students who take up a language course will also be taught the practical application through papers like 'journalism,' or 'mass communication.' Commerce students besides their theory and basics, will have to learn an applied topic like computer programming. Papers in 'social work' or 'population studie's are offered to sociology students and 'cooperative management' or 'planning and development strategies' to students of economics.

Enrichment courses are being introduced under the cultural component of the new scheme of study. Diverse subjects like art appreciation, family health, office practice, public speaking, Sanskrit language and literature, cosmetology, flower arrangement, home furnishing and numerous others are offered as enrichment courses.

Many academic reforms are attempted in the introduction of the enrichment courses. As the courses, by the very nature of diverse topics, are of varying duration, they are offered with credits. The courses may be of full credit, half credit or quarter credit. The student can choose more than one course to fulfil the credit requirements without being bogged down in one subject.

The assessment of the attainment of a student in enrichment courses will be done at the collegiate level, which is another novel feature.

The university has also decided to admit any member of the public to these courses only. The interaction between the public and regular students is expected to make education of women relevant to society and contemporary. Also, students from one college can opt for a subject under the enrichment course at another college, if the same is not available in her own college.

A fair measure of autonomy is being conferred on colleges in the running of the enrichment courses. The colleges themselves can initiate and design, with the approval of the university, courses that fall under this category. The freedom is granted, because the instructional duration will vary on the basis of the nature of the course and each course should develop students' abilities, skills and attitudes. Hence the top-level planning and uniformity are avoided.

Another innovation is attempted in regard to the applied component. A subject like mass communication is taught along with a grounding in some other disciplines like sociology and psychology. This makes the applied component, to some extent, inter-disciplinary. The applied subjects are also allowed to be studied either through papers or through a dissertation to be defended by the student.

Other reforms attempted along with the introduction of the new course structure, are internal assessment, the semester and grading systems. Internal assessment has a weightage of 30 per cent for all subjects under the new pattern. This is introduced to goad students learn continuously throughout the year. The semester and grading systems are introduced in home science and nursing faculties. It is hoped that they will bring in a sense of satisfaction of clearing subjects semester-wise and not being deprived of a just award for one's work.

UGC to study BCE problems

The University Grants Commission is likely to send a team of experts to Patna to study the problems of Bihar College of Engineering. The visiting committee would examine the proposals from the university for the development of the faculty of engineering during the fifth plan period.

Dr. A.K. Dhan, Vice-Chancellor, said that the university has already submitted to the Commission a detailed plan of development. It is proposed to introduce postgraduate teaching in civil, mechanical and electrical engineering. Postgraduate teaching in structural engineering is also likely to be started. Hydraulic and water resources and municipal engineering, themal power engineering, refrigeration and air-conditioning and power systems and industrial electronics are the other subjects to be introduced shortly.

10+2 Review Panel

The Education Minister, Dr. P. C. Chunder, has set up a committee to review the syllabi and textbooks prepared by the NCERT for the 10+2 system of school education. Shri I. J. Patel, Vice-Chancellor of Gujarat University is the Chairman of the committee which has twentyfour other members representing the Council, the Central Board of Secondary Education, State Governments, teachers associations and eminent educationists The committee would review the stagewise and subjectwise objectives identified in the NCERT document—"The curriculum for the ten-year school". It would scrutinise the NCERT syllabus and textboks, examine whether any suitable modifications in the scheme of studies or the time-table are needed and propose a suitable staffing pattern. The experts would review the present scheme of studies and the time allocated for various subjects with a view to ensuring that the institution or teacher has adequate time for experimentation, creative work and remedial instruction as also to accommodating the needs of the bright child for advanced-level courses, the specific interest and aptitude, or the lack of it in students keeping in view the national goals of development and objectives of education. The Committee would be submitting its report within three months.

Defence studies for Madras

The University Grants Commission had set up a committee consisting of Lt. Gen. K. P. Candeth, Director-General of Youth Services, Col. Rama Rao, Mr. S. M. Diaz of the Police Training College, Hyderabad, Prof. Unnithan of the Rajasthan University and Dr. Jatar of the Sagar University, to examine the proposal of Madras University for setting up a department of defence studies and criminology. The members of the committee had prolonged discussion with Dr. Malcolm Adiseshiah, Vice-Chancellor of the University in

INDIAN SCHOOL OF MINES
DHANBAD-826004

Advt. No. 420008/77 **Dated June 21, 1977**

ANNOUNCEMENT OF FACULTY POSITION

I. The following vacancies exist at the Indian School of Mines—a 'deemed University' under the University Grants Commission Act, 1956:

1. **Four Professors:** One in **Electronics and Instrumentation:** One in **Fuel Engg.** for the Deptt. of Chemistry, Fuel and Metallurgy and one in **Mining Machinery** and one in **Mechanical Engg.** for the Deptt. of Engg. and Mining Machinery.
2. **Two Visiting Asstt. Professors** for the Deptt. of Mining Engg. in the specialisation of Coal Mining Methods/Metal Mining Methods/Opencast Methods (These posts are tenure posts normally for one-year duration only, and are thus very suitable for persons employed in industry and research institutions who would like to undergo limited academic exposure/development).
3. **Seven Lecturers:** Two for the Deptt. of **Mining Engg.**, one in **Mechanical Engg.** for the Deptt. of Engg. and Mining Machinery, one in **Computer Systems** and one in **Industrial Relations** for the Deptt. of Industrial Engg. and Management, one in **Economics** for the Deptt. of Humanities and Social Sciences, and one for the Deptt. of **Applied Geophysics.**

Except the posts of Lecturer in Computer Systems and Lecturer in Economics (which are currently temporary vacancies'), and for those of Visiting Asstt. Professors, all posts are permanent or likely to become permanent.

Those who applied in response to the advertisement dated 30th March, need not apply again.

Pay scales and upper age limits:

Professor: Rs. 1500-60-1800-100-2000-125/2-2500 (50 years)
Visiting Asstt. Professor: Rs. 1200-50-1300-60-1900 (40 years)
Lecturer: Rs. 700-40-1100-50-1600 (35 years)

Allowances admissible as per Government of India Rules sanctioned from time to time. Total emoluments currently amount to Rs. 969/- at the Rs. 700 stage, Rs. 1503/- at the Rs. 1200 stage, Rs. 1803/- at the Rs. 1500/- stage and Rs. 2203/- at the Rs. 1900 stage. Upper age limit relaxable in respect of certain categories and persons otherwise considered specially suitable.

II. Specialising in the field of earth sciences and technology, Indian School of Mines conducts two B Tech Programmes (in Mining Engg. and Petroleum Engg., two M Sc programmes (in Applied Geoglogy and Applied Geophysics) as well as several post-graduate industry-oriented programmes, including three M Tech programmes (in Mining and Mine Planning/Opencast Mining/Mining Machinery). One DISM/M Tech Programme (in Mineral/Coal Preparation), two post-graduate diploma programmes—one in Mineral Exploration and the other in Mining Geophysics. An additional M Tech Programme (in Pet Prodn) and two more MSc (Tech) programmes (one in Engg. Geology, and the other in petroleum Exploration) are expected to be started next year.

The School also has an ambitious continuing education executive development programme (covering about 44 courses per year), a strong R & D activity, and an approved scheme of Institutional consultancy.

III. Information for candidates and prescribed application forms are obtainable from the Registrar, Indian School of Mines, Dhanbad-826004, on sending a self addressed envelope of the size 29 x 12 cm affixed with postal stamps of the value of Rs. 2.70 paise. Application in the prescribed application form, complete in all respects, should reach the undersigned on or before **July 23, 1977.** Those in service are advised to apply through their employer(s).

Canvassing in any form would be a disqualification.

S. K. BORDIA
REGISTRAR

Bombay to have 3-year degree programme

A symposium on new 3-year degree course was organised by the Progressive Group in Bombay recently. The participants included Dr. B. M. Udgaonkar, Professor of Physics, Tata Instituth of Fundamental Research, Principal P. M. Potdar of Parle College of Arts and Science, Principal J. L. Abhyankar of Sydenham College and Father Lancelot Perreira, Principal of the St. Xavier's College. The focus of discussion was on the structured 3-year course of Bombay University. Prof. Udgaonkar said that one of the novel innovations introduced in the new course was a five paper ancillary course on Rural Development which was the first of its kind in the country. This would entail going to rural areas for six months for work. He described various other features of the three-year degree programme. The students will now be able to opt for ancillary subjects from other faculties. This will mean that science students will be able to opt for Economics and Languages as ancillary subjects. The same will apply for students of Arts and Commerce who want to do subjects from other faculties. On the whole eighteen papers will have to be completed in three years. Prof. Udgaonkar stressed the importance of applied component which would form about 12% of the students workload. Eminent people who were conversant with the applications of various subjects in day-to-day life would be invited to lecture the students.

There would be four Foundation Courses for students of all faculties. These were : Social and Economic life in India; Contemporary World Civilisation ; Scientific Methodology and Science and Technology in Society. It would be possible for a student to major in only one subject at the end of the three year course. He could also get honours by securing more than 50 per cent of the total marks.

Principal Abhyankar while discussing the Commerce course, deplored the fact that there still was no Department of Commerce in Bombay University. He said that all professional courses like Costing, CA, Banking etc have to be done from outside institutes. However the new Commerce syllabi had tried to tackle these problems. Representatives from Industry and various Chambers of Commerce had been consulted in designing the new syllabi. Various new subjects like Costing, Foreign Trade, Company Secretaryship had been introduced in the third year of the new course and students could major in these subjects.

Father Perreira said that the new subject of Life Sciences would involve studying Biology along with Physics, Chemistry and also Mathematics as one subject. Subjects like Biology, Physics, Bio-Chemistry, Geo-Physics and Geo-Chemistry would also be introduced. He emphasised that the colleges should be granted more autonomy for re-organising their courses.

Principal Potdar said that students could now specialise in the third year and even do six papers in one subject. He revealed that in the semester system in each year of the course there would be internal examinations in the first semester and external in the second. All examinations would be internal in future.

INDIAN SCHOOL OF MINES
DHANBAD-826004

Advt. No. 615028/77 **Dated: 9th June, 1977**

DIRECT ADMISSION 1977
For Rank-Holders Etc.

A limited number of seats in the first year of the 5-year Integrated Programme leading to the degrees of B. Tech. in (1) Mining Engineering and (2) Petroleum Engineering, and of Master of Science in Applied Geology at the Indian School of Mines, for the session 1977-78, are reserved for rank-holders in the examinations for Pre-University/Indian School Certificate/Higher Secondary (or equivalent) with Chemistry, Mathematics, Physics and English conducted by recognised Universities/Boards in 1977.

2. Applications are invited in the prescribed form for these reserved seats. Only candidates who have secured at least 60 percent marks in **each** of the subjects of Physics, Chemistry and Mathematics and are within the first **ten ranks** in the examination mentioned above, are eligible to apply for admission under this category. However, Scheduled Caste/Scheduled Tribe candidates who have obtained no less than 50 percent marks (in aggregate) in Physics, Chemistry and Mathematics, may also apply for admission.

Candidates who have already appeared for the I.S.M. Entrance Examination conducted this year may also apply for seats under this category provided they satisfy the conditions mentioned above.

3. Only such candidates as were born on or after 1st October, 1956 are eligible to apply for admission under this category. The upper age limit is relaxable by three years in the case of candidates belonging to Scheduled Castes and Scheduled Tribes.

4. For detailed instruction, please see the Memorandum of Information and Application Form which can be had from the Registrar, Indian School of Mines, Dhanbad-826004, by sending a money order for Rs. Five only.

Applications in the prescribed form, complete in all respects including rank-holder certificate and marks-sheet, should reach the Registrar, Indian School of Mines, Dhanbad by **15th July**, 1977.

S. K. BORDIA
REGISTRAR

New screening procedures adopted by UPSC

Dr. A. R. Kidwai, Chairman, Union Public Service Commission had said in New Delhi that by introducing objective type tests and getting them evaluated quickly the Commission is now able to give opportunities to a much larger number of applicants than before to be called for interview for posts advertised by the Commission. Since the last one year the Commission has been able to complete its selection process for various posts within three months of the publication of advertisements. The interviews usually take place within six weeks of the closing dates of the applications. The candidates and the Government departments were informed of the results of the interviews without delay.

Methods of recruitment and selection by the Commission were being constantly streamlined, their objective being to give a fair chance to the largest number of candidates and selecting the best among them for public service.

The Commission was now conducting a simple one hour screening examination for a large number of candidates. The examination is of a objective type with the candidates being tested for their knowledge and analytical faculties. The answer papers were fed into optical screeners, two of which were acquired by the Commission and the marks obtained by the candidates in the test were made available to them almost immediately. For the next stage of the interview, candidates were called on the basis of their performance in the test. Dr. Kidwai said that this new method gave greater satisfaction to candidates who felt that they were not at a disadvantage on account of the varying standards of universities.

The Commission in consultation with the Defence Ministry had decided that the combined service examination and the selection for National Defence Academy would in future be based on objective type papers. About 500 candidates would be selected every six months for various services through the Combined Services Examinations.

Dr. Kidwai said that objective type examinations were resorted to in the selection of doctors being made by the Commission. For the first time for 800 posts under the Railways and Government, nearly 16000 applications were received. 80% of them appeared in the written rest, whose results were declared within one month. On the basis of their performance in the test, about 1600 were called for interview. The results are likely to be declared shortly. The Commission usually receive a large number of applications for many of the posts but uptil now could call only a limited number for interviews on the basis of the experience and academic qualifications. By these innovations the method for selection would be further widened.

ICMR reports of drug abuses by varsity students

The Indian Council of Medical Research had conducted a national sample survey of drug addicts among students. About 33% students of Delhi University, both boys and girls, have been found to be drug addicts. The addiction was more among men (45.7%) than among women (18.3%). Institutions with attached hostels were found to be having more such addicts. The most commonly abused drugs are alcohol and tobacco. The third most commonly abused drug was cannabis for males and analgesics for females. The majority of the students in the university abused drugs in a casual, experimental manner Those who craved for the drugs all the time were only 8.4%.

In a study of 1132 students of Calcutta University. tobacco abuse constituted 26% and amphetamines 11.4%.

A study among Bombay University showed that 19.7% students were drug addicts. The most commonly abused drung there was cannabis followed by amphetamines, barbiturates, LSD, opium heroin, cocaine and morphine.

A study at Chandigarh showed that 18.87% of the students there were drug addicts. In Chandigarh the most commonly abused drug was amphetamines followed by madrax, cannabis and barbiturates. In Delhi 32.2% of the boys were drug addicts in one of the English medium boys schools. Tobacco was most abused followed by alcohol and cannabis.

A study in which 100 core drug abusers among students were examined showed that more than 70% belonged to the higher economic strata, receiving a pocket money of Rs. 150 to Rs. 200 per month and studied in the arts group. Most of them had certain personal and social problems which induced drug abuse. Panwallas, dhobis and friends were reported to be the main sources of drug supply.

The drug addiction among students is much less severe in India as compared to some other countries. In India the abuse is mostly confined to illicit drug and is mostly experimental and recreational. According to the ICMR survey more than 50% of the boys and 82% of the girls are totally abstinents. It has been suggested that students with such problems should be helped through competent psychiatric attention and counselling. Unfortunately even many top-ranking educational institutions in the country do not have student counselling facilities.

Gauhati introduces Bodo

The University of Gauhati has included Bodo language in the list of Mondern Indian Languages for the pre-university course from the current academic session. Bodo language has already been the medium of instruction up to class X under the Board of Secondary Education.

Bhavnagar to have its own University

Bhavangar is expected to have a residential university soon. The Gujarat State Government had been requesting the University Grants Commission for an early clearance. The entire postgraduate teaching would be confined to the university campus while undergraduate teaching would be done in the colleges. A board of planning for the future development of the university is likely to be set up soon.

New courses in Kerala

The University of Kerala will be starting a Postgraduate course in Journalism during the next academic year. The course concentrates on journalism, Mass media, mass - communication, Radio and T.V. Journalism and Public Relations. The duration of the course will be 2 years and M.J. degree will be awarded to successful candidates, who complete the Theory and Practical examination.

The University has also decided to start a course in Military studies at the Postgraduate level from the next academic year. The syllabi for the course which will be called M A. in Military Studies has been already drawn up. The course will be by semester system. The first semester will consist of Socio Economic Studies, Military Geography, Military History and International Politics. The second semester will consist of International Law, Psychology, Disarmament, Non-alignment and Collective Security and Conventional and Nuclear Warfare. The third semester consists of Foreign Studies : India's neighbours, China, Japan & South East Asia, U S.A., U.S.S R and Western Europe, Africa and West Asia. Training will also be imparted through lectures, discussion and exercise and demonstration visits. Specialisation will be in the fields of Military history, foreign studies and national defence.

Grants for Visva-Bharati projects

The University Grants Commission has sanctioned a sum of Rs. 1.5 crores for various projects of Visva Bharati. Dr. S. Sinha, Vice-Chancellor of the university said that the work on these projects would commence shortly after the clearance of the Shiksha Samiti of the University.

The Visva Bharati would also be preparing a ten-year academic programme for future development. The University Grants Commission is likely to provide the financial assistance for this project as well.

Liberalised rules for importing equipment

The Union Government has liberalised its policy for the import of equipment and raw material for research and development purposes, for the current financial year. All research and development laboratories recognised by the Department of Science and Technology, all universities, IITs and other research laboratories and Institutions can now import scientific instrument, equipment, raw meterials, components up to the C.I.F. value of Rs. five lakhs per year without any import licence. They will however have to give a declaration at the time of custom clearance of the goods that these were required for research and development purposes. It is however obligatory on the part of the importer to inform the Department of Science and Technology within thirty days of customs clearance the particulars of the goods imported.

Kanchenjunga conquered

Two members of the Indian army expedition, Major Prem Chand and Naik N.D. Sherpa conquered Kanchenjunga, India's highest and the world's third highest peak. The sixteen member army expedition was led by Col. N. Kumar, a seasoned mountaineer and veteran of the 1965 successful Everest expedition.

Indian breeder reactor

Dr. Raja Ramanna, Director of the Bhabha Atomic Research Centre, Trombay, on his three-day visit to Calicut announced that India's breeder reactor is likely to be ready by 1980.

Changes in CSIR

The Council of Scientific and Industrial Research along with its forty national laboratories are being looked after by the Union Education Minister, Dr. P.C. Chunder. He has been named the Vice-President of the CSIR in place of Mr. P.N. Haksar. The Prime Minister is the President of the CSIR. During recent years the office of the Vice-President of the CSIR had been held by the Vice-Chairman of the Planning Commission.

Madurai guidance course for IAS

Prof. S.V. Chittibabu inaugurated the guidance course organised by Madurai University for the benefit of scheduled castes, scheduled tribes and backward communities for the forthcoming IAS examinations. This is the first course of its kind to be run by a university in Tamil Nadu with the expertise that its departments can offer. The necessary financial support has been provided by the State Government.

The Vice-Chancellor in his address explained the value of preservance and hard work. Proper application and intelligent comprehension of the objectives of the course could alone give them needed confidence and self-assurance for the task ahead of them. He regretted that there was a deplorable slide back in the achievement of Tamilnadu in the IAS and other central services examinations in the past decade. Very few of the products of the Tamil Nadu universtities had been able to make the grade for these examinations. He advised the students to work hard to redeem the prestige of the State. He wished them every success and expressed the hope that such of them as get selected would uphold the highest ideals of Civil Services and serve the nation and the community with a sense of dedication to duty and justice.

About seventy students are attending this guidance course. The lectures would cover all the three compulsory papers of the IAS examinations and five of the optional subjects and these are being delivered by a selected team of the Faculty members of the Madurai University. Several pamphlets such as model question papers, general information materials and guidance notes have been made available to the participants. They can have the opportunity to make the best use of the university library for reference and self study purposes.

Conferences, Seminars and Workshops

July September, 1977

Date	Title	Venue	Sponsoring Body
6 June-16 July	Summer Institute in Geology *	Jammu	University of Jammu
25 June-15 July	Seminar on problems of interdisciplinary interests in Science	Lucknow	Mahila Vidyalaya
4 Jul- 8 July	Workers' participation: production planning	Calcutta	Cal. Productivity Council
4 Jul- 9 July	Electrical maintenance in the chemical industry	Ahmedabad	Nat. Productivity Council
4 Jul-15 July	Principles of supervision	Calcutta	Cal. Productivity Council
4 Jul-29 July	Industry & Economic environment	Calcutta	—do—
5 Jul- 7 July	Environmental resources management	Poona or Hyderabad	All India Management Association
5 Jul-16 July	Investment planning & Project evaluation	Hyderabad	Administrative Staff College
11 Jul-13 July	Hydraulic stowing	Dhanbad	Indian School of Mines
11 Jul-14 July	Seminar on the history of geographical thought	Nagpur	Morris College, Nagpur
18 Jul-22 July	Standardisation	Calcutta	Cal. Productivity Council
18 Jul-29 July	Productivity techniques	Calcutta	—do—
18 Jul-30 July	Combustion engineering	Dhanbad	Indian School of Mines
18 Jul-30 July	Geological aspects of Mine planning	Dhanbad	—do—
24 Jul-28 July	Management information system	Delhi	Nat. Productivity Council
25 Jul-29 July	18th Advanced Management Programme	Srinagar	All India Management Assocn.
25 Jul-29 July	Maintenance management	Hyderabad or Poona	All India Management Association
25 Jul-30 July	Maintenance engineering and systems	Bangalore	Nat. Productivity Council
25 Jul-30 July	Management of education systems	Hyderabad	Administrative Staff College
25 Jul-30 July	Waste heat management	Madras	Nat. Productivity Council
1 Aug- 6 Aug	Design of mine equipment	Dhanbad	Indian School of Mines
1 Aug- 6 Aug	Management by objectives	Hyderabad	Administrative Staff College
8 Aug-16 Aug	Management of industrial relations	Hyderabad	—do—
8 Aug-20 Aug	Maintenance management	Hyderabad	—do—
22 Aug-27 Aug	Project management	Hyderabad	—do—
26 Aug-28 Aug	Mid-term conference of the Cardiological Society of India and the Thoracic Surgery Section of the Assocn. of Surgeons of India	Bangalore (Med. College)	Cardiological Society of India
27 Aug-28 Aug	Design and applications of computers: mid-term symposium of the I E T E	Hyderabad	Institution of Electronics and Telecommunication Engineers
27 Aug-28 Aug	International Conferences on Production Engineering	New Delhi	Inst. of Engineers (India)
27 Aug-31 Aug	CIRP International Conference	New Delhi	—do—
29 Aug- 2 Sept	International Workshop on Millets	Hyderabad	Int. Crops Research Institute for the Semi-Arid Tropics
29 Aug- 3 Sept	Seminar on leadership and organisation development	Hyderabad	Administrative Staff College
Ist Week of Aug	Bicentenary Seminar of Adam Smith's Wealth of Nations	Tirupati	Sri Venkateswara University
Last Week of Aug	15th Convocation of I A R S	New Delhi	Inst of Agricultural Res. Statistics
August' 77—	Orientation of Secondary educational T.V.	New Delhi	N. C. E. R. T.
1 Sept-10 Sept	Management of research systems	Hyderabad	Administrative Staff College
3 Sept-5 Sept	Contemporary issues in elementary education	Tirupati	Sri Venkateswara University
5 Sept-10 Sept	Metal mining systems	Dhanbad	Indian School of Mines
12 Sept-24 Sept	Surface mining	Dhanbad	—do—
14 Sept-16 Sept	International Symposium on Nuclear Physics	Calcutta	Variable Energy Cyclotron Laboratory
15 Sept. '77	Engineers Day	New Delhi	Institute of Engineers (India)
16 Sept-19 Sept	Seminar on Design & Standardisation of Electrical Machinery and Equipment	Hyderabad	Inst. of Engineers (India)
18 Sept-19 Sept	Seminar on the problem of white collar crime in India	Amritsar	Guru Nanak Dev University
26 Sept-29 Sept	Workshop on Law of the Sea	Mysore	Univ. of Mysore
26 Sept-30 Sept	Seminar in magnetohydrodynamics & Plasma dynamics	Chandigarh	Dept of Maths., Panjab University
26 Sept- 1 Oct	Metal mining machinery	Dhanbad	Indian School of Mines
1st fortnight of September	Workshop-cum-Seminar on Lexicography	Trivandrum	University of Kerala
IInd half of September	Summer Institute in theory and practice of public administration	Udaipur	Deptt of Political Science, Univ. of Udaipur
September '77	Seminar on integrated rural development	Waltair	Deptt of Cooperation and Applied Economics, Andhra University.
September '77	Seminar on Television Engineering in India	Delhi	Inst of Engineers (India)
Sept/October '77	Summer Institute in Contemporary Trends in Geography	Shillong	Dept of Geography, NE Hill University.

SUBJECT INDEX

Agriculture	
15th Convocation of I. A. R. S.	Last week of August '77
International Workshop on Millets	29 Aug- 2 Sept.
Computers	
Design and applications of computers: Mid-Term Symposium of the I.E.T.E.	27 Aug-28 Aug.
Criminology	
Seminar on the problem of white collar crime in India	18 Sept-19 Sept.
Economics	
Bicentenary Seminar on Adam Smith's Wealth of Nations	Ist week of August '77
Education	
Contemporary issues in elementary education	3 Sept- 5 Sept.
Management of Education systems	25 July-30 July
Orientation of Secondary educational TV	August '77
Engineering	
CIRP International Conference	27 Aug-31 Aug.
Combustion engineering	18 July-30 July
Electrical maintenance in the chemical industry	4 July- 9 July
Engineers Day	15 September '77
International Conferences on Production Engineering	27 Aug-28 Aug.
Maintenance engineering and systems	25 July-30 July
Seminar on Television Engineering in India	September '77
Waste heat management	25 July-30 July
Environment & rural development	
Environmental resources management	5 July- 7 July
Seminar on intergated rural development	September '77
Geography and geology	
Seminar on the history of Geographical thought	11 July-14 July
Summer Institute in contemporary trends in geography	September October '77
Summer Institute in Geology	6 June-16 July
Industrial management	
Industry and Economic environment	4 July-29 July
Management of industrial relations	8 Aug.-16 Aug.
Principles of supervision	4 July-15 July
Worker's participations, production planning	4 July- 8 July
Information and Research	
Management information system	24 July-28 July
Management of research Systems	1 Sept-10 Sept
Law	
Workshop of Law of the Sea	26 Sept-29 Sept
Lexicography	
Workshop-cum-Seminar on Lexicography	Ist fortnight of Septembe
Management	
18th Advanced Management Programme	25 July-29 July
Investment palnning and project evaluation	5 July-16 July
Maintenance Management	25 July-29 July
Maintenance Management	8 Aug. -20 Aug.
Management by objectives	1 Aug- 6 Aug.
Productivity techniques	18 July-29 July
Project management	22 Aug. -27 Aug.
Medicine	
Mid-Term conference of the Cardiological Society of India and the Thoracic Surgery Section of the Associateion of Surgeons of India	26 Aug.-28 Aug.
Mining	
Design of mine equipment	1 Aug.- 6 Aug.
Geological aspects of mine planning	18 July-30 July
Hydraulic stowing	11 July-13 July
Metal mining machinery	26 Sept- 1 Oct.
Metal mining systems	5 Sept-10 Sept.
Surface mining	12 Sept-24 Sept
Public administration	
Seminar on leadership and organisation development	29 Aug.- 3 Sept
Summer Institute in theory & Practice of public administration	Second half September
Science	
International symposium on Nuclear Physics	14 Sept-16 Sept
Seminar in magnetohydrodynamics and plasma dynamics	26 Sept-30 Sept
Seminar on problems of Inter-disciplinary interests in Science	25 June-15 July
Standardisation	
Seminar on Design and Standardisation of Electrical Machinery & Equipment	16 Sept-19 Sept
Standardisation	18 July-22 July

Further details can be had from : The British Council Library
A.I.F.A.C.S. Building
Rafi Marg
New Delhi-110001

THESES OF THE MONTH

A list of Doctoral Theses Accepted by Indian Universities

SOCIAL SCIENCES

Psychology

1. Sinha Kamlesh Kumar. Attitude towards youth unrest in relation to one's own parental style and some personality variables. University of Bihar.

Anthropology

1. Nair, K. S. A regional community in an urban setting. University of Poona.

Political Science

1. Pathak, Kanwal Kishore. Nuclear policy of India. Kurukshetra University.
2. Purohit, Indira. Madhya Pradesh ka rajasv prashasan, san 1956 se vartman samay tak. Indore University.
3. Raina, Shrikrishan. Gwalior, Indore reyasaton mein majdur andolan evam Rashtriya andolan per uska prabhav. Vikram University.

Economics

1. Agrawal, Sushila. Madhya Pradesh mein jansankhya evam ayestar 1950-1971. Vikram University.
2. Bhuyan, P. K. State finances of Assam Government during the plan period, 1951-52 to 1965-66. Dibrugarh University.
3. Dattarraya, Ganapati Pavaskar. Economics of roads, road cost, road finance and road development in the four-berar districts. Nagpur University.
4. Ghanashyam Das. External assistance and the prospects for sale-sustained growth of India during the plan period. Utkal University.
5. Joshi, Bal Ratan. Pashchimi Rajasthan ke shukha kshetra mein krishi ke nai taknik ke kriyanvayon evam prabhav. University of Jodhpur.
6. Sahay, Surottam Narayan. Analysis of prediction errors and residuals in econometric models. University of Delhi.
7. Sublok, Asha. Madhya Pradesh mein suti vastra udyog mein karyarat mahila sharmikon kee artihk sthityon ka adhyayan. Jiwaji University.

Law

1. Samuel, C. J. A study of industrial accidents in India with special reference to nature causetion and prevention. University of Udaipur

Education

1. Jindel, Chandgi Ram. A comparative study of some personality variables and affective reactions towards examinations of superior and failing college students. Kurukshetra University.
2. Kaushik, Nathu Singh. An investigation into the basic Hindi vocabulary of children at the age of 13+(Eighth Class) in the State of Haryana. Kurukshetra University.
3. Kuruvilla, Rajamma. An experimental study in the use of programmed learning material in the classroom. M. S. University of Baroda.
4. Najmi, Narendra Nath. A study of educational administration in Haryana with special reference to the present decentralization in the state educational administration. Kurukshetra University.
5. Roy, Sunirmal. Classroom questioning and pupil achievement: An enquiry into teaching style. M. S. University of Baroda.
6. Sharma, Satya Pal. A study on the development or primary education in Delhi from 1913 to 1968. Kurukshetra University.
7. Sushil Kumari. Student perceptions of the college environment as related to their satisfaction in the colleges of Haryana. Kurukshetra University.

Commerce

1. Dalip Singh Organization and Management of cooperative Agro Industries in Haryana. Kurukshetra University.
2. Kadvekar, Shripad Vinayak. Management of cooperative spinning mills in Maharashtra. University of Poona.
3. Kamal Kishore. A study of industrial estates in Haryana. Kurukshetra University.
4. Ram Narain. Economics of lift irrigation projects in Haryana: A case study of the Jui Lift Irrigation Project. Kurukshetra University.

HUMANITIES

Philosophy

1. Bhagyaleela, R. Studies in the philosophy of change. Sri Venkateswara University.
2. Jain, Lalit Kumari Sadhvi. Bharatiya darshan mein permannvad: Jain darshan ke vishesh sandarbh mein. Indore University.
4. Jain, Veena. A study of Jaina ethical ideas with special reference to Acaranga Sutra. University of Delhi.
4. Kesavan Nampoothiri, K. P. The concept of apavarga in Sankhya philosophy. University of Kerala.
5. Savitri Devi. A critical study of the concept of creativity in philosophy with special reference to Bergson, Whitehead and Sri Aruobindo. Kurukshetra University.

Literature

English

1. Barnabas, S. J. Some perspective on the American drama of the depression decade, 1929-1939. University of Poona.
2. Jaggi, Satya Dev. The language of poetry with special reference to the critical writings of I.A. Richards. University of Delhi.
3. Mehta, Pramod Kumar. Christopher Fry as a playwright. Vikram University.
4. Pratyus, Ranjan Purkayastha. Plays of the early romantic poets of England. Gauhati University.

Sanskrit

1. Anasuya Devi, V. Valmiki's influence on Kalidasa. Osmania University.

2. Banerjee, Sipra. Kavi Karnapura rachit Chaitanya Condrodaya ka samikshatmak adhyayah. Kurukshetra University.

3. Chandniwala, Murlidhar. Rigved ka updeshparak swarup: Ek adhyayan. Vikram University.

4. Ram Niwas. The aborigines in ancient Indian literature with special reference to the Vedic literature and great epics. Kurukshetra University.

5. Sampath Raghu Narasimhachari. The critical edition of Rasakalpadruma of Jagannatha Misra with a critical study. Karnatak University.

6. Sharma, Krishna Kumari. Bhanas, a form of drama: A critical study. University of Delhi.

7. Sharma, Rohtash. Contribution of Arya Kshemisvara to Sanskrit drama. Kurukshetra University.

8. Thatte, Anuradha Arun. A critical study of the concept of God in the Vedanta system. University of Poona.

Hindi

1. Arvind Kumar. Nai kavita per vaigyan ka prabhav, 1950-1970. Kurukshetra University.

2. Batra, Madhu. Sufi mat ke prakash mein Sheikh Rahim krit Bhasha Prem Rasa ka vishesh adhyayan. Kurukshetra University.

3. Chandrashkeharan Nair. H. Hindi aur Malyalam ke pratikvadi kavi. University of Bihar.

4. Chauhan, Reghubir Singh. Hindi shok-geeton ka adhyayan: Angrezi kavyon ke sandharb mein. Jiwaji University.

5. Chaurasia, Malti. Vinaya Patrika: Vishleshan aur mulyankan. Kurukshetra University.

6. Dhingra, Ram Chand. Adhunik Hindi Kahani mein yaun chetna. University of Delhi.

7. Indira Devi, P. K. Poetical works of Sumitranandan Pant. University of Cochin.

8. Jagan Kaur Singh. Adhunikta kee avadharana aur samakaleen Hindi Kahani, 1950–72. University of Delhi.

9. Krishan Gopal. Udai Shankar Bhatt tatha K. P. Khadilkar ke natkon ka tulnatmak adhyayan. University of Delhi.

10. Kulshreshth, Padmawati. Ratnakar kee bhasha ka adhyayan. Vikram University.

11. Rai, Raj Narayan. Urveshi: Kavya, Chintan aur shilp. University of Bihar.

12. Rana, Raj Singh. Upanyaskar Jainendra ke purush patra. Kurukshetra University.

13. Sahani, Bhagwan Lal. Adhunik Hindi prabandh kavyon ka ras shastriya vivechan. University of Bihar.

14. Sharma, Awadhesh. Ramcharitmanas aur Paradise Lost: Ek tulnatmak adhyayan. University of Bihar.

15. Sharma, Janki Pd. Dwivediyugottar adhunik Hindi kavita mein paramparavadi prevtrittiyan, 1920-1970. Bhopal University.

16. Sharma, Om Prakash. Badalte samajik mulya aur Hindi natak. Himachal Pradesh University.

17. Sharma, Om Parkash Anand. Punjab mein rachit Satasia ka shastriya adhyayan. 1800 to 1900 A.D. Kurukshetra University.

18. Sharma, Shyamcharan. Premchanddhara ke upanyas sahitya mein sanskritik chetna, 1920-1960. Vikram University.

19. Thankamani Amma, S. Modern Hindi Khanda kavyas, 1900–1970. University of Cochin.

20. Upadhyaya, Udairaj. Adhunik Hindi Ramkatha Kavya mein Ramkatha ke swarup ka anusheelan. Nagpur University.

21. Usharani Singh. Bhartendu Harishchander: Jiwan, chintan aur sahitya. Jiwaji University.

22. Verma, Satya Vir Singh. Swatantryottar Hindi manovaigyanik upanyason mein naitik mandand. Kurukshetra University.

23. Vimla Kumari. Ashtachap ke kavion ka kavya rup. University of Delhi.

Arabic

1. Wahibi, Rashidul. Development of modern Arabic Poetry in Egypt from 1900-1950 A.D. University of Delhi.

Urdu

1. Aowte, Ghudubhai Ismailsaheb. The social, cultural and political background of Urdu mashnavis written in the Deccan: A critical study. Shivaji University.

2. Hameeda Bano. Urdu shayari: Rujhanat va tahrikat. Vikram University.

3. Sayed Abdul Rahim. Iradat Khan Wadih: Life and works. Nagpur University.

Assamese

1. Bhattacharyya, Birendra Kumar. Humour and satire in Assamese literature. University of Gauhati.

Marathi

1. Keshav Reghunathanav Kahananere. Marathi patra vangme atihasik prarambh kala pasak isvi samvat 1818 peryant. Jiwaji University.

2. Limaye, Shakuntala R. Marathi mythological plays: A socio-literary study. S. N.D .T. Women's University.

3. Madhukar Vokorey. Lokgeeton ani janpadegeeten: Prerana, prakirya, pravah; arambhakala pasun isvi samvat 1970 peryant. Vikram University.

Telugu

1. Satya Rama Rao, Nanduri Venkata. Society as reflected in Telugu ltterature. Anhra University.

Fine Arts

1. Jayanti Vishvanath Vaishampayan. Contribution of Rukminidevi Arundale to Bharat Natya. M. S. University of Baroda.

2. Kothari, Sunil Manilal. The dance-drama tradition of Kuchipuddi Bhagavata mela natak and Kurvanji with special reference to the rasa theory as expounded in Bharat's Natyasastra. M. S. University of Baroda.

Geography

1. Krishna Prabha. Settlement structure and heirarchy in Punjab. University of Delhi.

2. Vijendra Kumar. Urban villages of Delhi structural pattern and transformation. University of Delhi.

History

1. Borah, D. K. Studies in the historical and cultural geography and ethnography of Eastern India from the earliest time till the 13th century A.D. University of Poona.

2. Chatterjee, Anjana. Socio-economic conditions in early Andhra (C. 200 B.C.—300 A.D.): A study of the transition from the megalithic to the early historical culture. Jawaharlal Nehru University.

3. Deka, K. A study on the social life of the people of Assam during the administration of the Copany. Dibrugarh University.

4. Manral, Dharam Pal Singh. Swatantrata sangram mein Kumaun Garhwal ka yogdan, 1857-1947. Kumaun University.

5. Mittal, Arun Kumar. The administration of Kumaun under Sir Henry Ramsay, 1856-1884. Kumaun University.

6. Punia, Dharampal Singh. Archaeology of Mahendragarh and Gurgaon Districts, Haryana. Kurukshetra University.

7. Shukla, Prakash. Indo-Pak relations, 1956-60. Kurukshetra University.

8. Simon Aubrey Clinton Vickers. Official attitude towards Indian emigration within the Commonwealth, 1870-1947. University of Delhi.

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EDUCATIONAL PHILOSOPHY

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Trow, Martin. "Elite higher education: An endangered species ?". *Minerva* 14(3): Autumn 1976: 355-76.

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Goswami, D. H. "Youth activities in university". *University News* 15(11); 1 June 1977: 294-297.

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Sharma, K. D. "Comparative study of educational opportunities: Muslims vis-a-vis other communities". *Indian Educational Review* 11(2); Apr 1976: 47-55.

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EDUCATIONAL RESEARCH

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Draper, James A. "Significance of Habitat 1976 to adult education". *Convergence* 9(4); 1976: 69-75.

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Yousif, Abdelwahid A. "African university and its community: The search for a relevant role". *Convergence* 9(2); 1976: 64-74.

CLASSIFIED ADVERTISEMENTS

UNIVERSITY OF BOMBAY

Applications are invited for the following posts in the University:—

	Post/s	Department
1.	Reader in Music	Music
2.	Professor of Business Finance	Commerce
3.	Reader in Banking	Commerce
4.	Reader in Commerce	Commerce
5.	Three Professors in any of the areas grouped as follows:— (i) Plant Sciences, Animal Sciences, Microbial Sciences, Cell Biology, Developmental Biology Ultrastructural Cytology; (ii) Molecular Biology, Immunobiology, Genetics, Biophysics and Biological Chemistry; (iii) Neurobiology, Electrophysiology, Biometry, Ecology, Engonomics and Cybernetics in Biology.	LifeSciences
6.	Reader in Marathi	Marathi
7.	Reader in Education	Education
8.	Lecturer in Education	Education
9.	Reader in Persian	Foreign Languages
10.	Professor of English	English
11.	Three Professors	Economics
12.	Professor of Cultural Anthropology	Sociology
13.	Reader in Industrial Psychology	Applied Psychology
14.	Professor of Public Administration	Civics & Politics
15.	Reader in International Law	Civics & Politics
16.	Professor (with specilisation in Commercial (Law)	Law
17.	Reader	Law
18.	Reader (with specialization in Combinatiories and/or Graph Theory)	Mathematics
19.	Professor of Theoretical Physics	Physics
20.	Reader (with specialisation in the field of Nuclear Physics (experimental)	Physics
21.	Reader (with specialisation in Urban Geography)	Geography
22.	Lecturer (with specialisation in Agricultural Geography)	Geography
23.	Lecturer (with specialisation in Social Geography)	Geography
24.	Lecturer (with specialisation in Quantitative and Cartographic Techniques)	Geography
25.	Professor of Physical Chemistry	Chemistry
26.	Reader in Physical Chemistry	Chemistry
27.	Reader in Inorganic Chemistry	Chemistry

The grades of the posts are: Professor Rs. 1100-50-1300-60-1600; Reader—Rs. 700-50-1250, and Lecturer—Rs. 400-40-800-50-950. These scales are liekly to be revised as per U.G.C. recommendations.

All posts carry the benefits of Dearness Allowance and House Rent & Compensatory Local Allowances at the rates sanctioned by the Executive Council from time to time' and the benefits of University Provident Fund. A higher starting salary may be given to a person possessing high qualifications. Appointments will be on probation for a period of two years in the first instance, but this probationary period may be waived by the Executive Council in special cases. Other things being equal preference will be given to candidates from backward classes. Posts of Lecturers are reserved for scheduled castes and scheduled tribes and will be filled up by appointment of such persons only as shall satisfy the requirements regarding qualifications, experience etc. laid down for the posts, provided however that if no candidates are available from the scheduled castes and scheduled tribes, the posts will be filled up by appointment of duly qualified persons from among other applicants.

The general requirements for the posts are as follows:

Professors and Readers:

(a) A Doctor's degree or published work of an equally high standard; and

(b) conistently good academic record with Ist or high 2nd class (B+) Master's degree in a relevant subject or an equivalent degree of a foreign University

Plus those additional qualifications prescribed by the University by way of experience etc.

Lecturers:

(a) A Doctor's degree or published work of an equally high standard; and

(b) consistently good academic record with Ist or high 2nd class (B+) Master's degree in a relevant subject or an equivalent degree of a foreign University.

Further details regarding qualifications, teaching experience etc. prescribed for the posts are as under:

The applicants for the post/s at serial **No. 1**:—must possess Master's degree in Humanities, Diploma or Certificate in Music of a recognized institution and performing ability of high degree in vocal music. They should also have published research work on music of high standard to their credit and an ability to guide and supervise research work in music and related disciplines. They should have previous experience of at least five years of running a Music Section or department of an institution of higher education.

No. 2:—must have (i) a Doctorate degree in Commerce or in related subjects or have to their credit published work of equivalent standard or must have the M.B.A. degree with specialisation in Finance or must be Associates of the Institute of Cost and Works Accountants with specialisation in Financial Management or Mangement Accounting or must be Associates of the Institute of Chartered Accountants and a degree in Commerce and the Diploma in Management Accounting, and (ii) must be engaged in active research and have an experience in guiding research for at least five years or must have experience of business or consultancy for at least five years or must be teachers of ten years standing out of which at least seven years should have been at the post-graduate level or the Honour's classes at the graduate level or must have at least ten years experience in Business at the managerial level.

No. 3 and 4:—must have (i) Master's degree in Commerce or in Banking (Monetory Economics), (ii) A Doctorate degree or independent published research work of equivalent standard or the M.B.A. degree and have Business or consultancy experience for at least five years, (iii) teaching and/or research and/or Business experience for seven years and (iv) capacity to guide research.

No. 5:—must have Master's degree in any of the areas of life Sciences and a Doctorate degree of a recognised University, a wide background in any of the subjects of Life Sciences mentioned below and experience of teaching post-graduate classes and/or guiding and conducting research work for at least 10 years. They must have done independent research work of recognised merit in any of the areas grouped as follows:—

(i) Plant Sciences, Animal Sciences, Microbial Sciences, Cell Biology, Developmental Biology, Ultrastructural Cytology.
(ii) Molecular Biology, Immunobiology, Genetics, Biophysics and Biological Chemistry
(iii) Neurobiology, Electrophysiology, Biometry, Ecology, Ergonomics and Cybernetics in Biology.

No. 6:—must have specialisation in the field of Sant Literature and experience of teaching post-graduate classes and of guiding and conducting research work and must have done independent research work of recognised merit.

No. 7:—must have three year's teaching experience at the post-graduate level or evidence of three years' post-doctoral research of high quality.

No. 8:—must have teaching experience of Degree/post-graduate classes.

No. 9:—must have post-graduate teaching experience for at least ten years and must have extensive experience of research done in the field of Persian Literature. They must have published research papers of high quality in standard journals. Knowledge of Modern Persian is desirable.

No. 10:—must have a wide background and general competence in English, experience of teaching post-graduate classes for at least 10 years and guiding and conducting research work in English and must have done independent research work of recognised merit.

They must have specialisation in English Language.

No. 11:—must have done independent research work of recognized merit and have considerable experience in guiding and conducting research work. Preference will be given to the candidate specialised in the following areas:—

(a) International Economics
(b) Indian Poverty, Inequality, Employment & Impact of Population on them
and (c) Modern Quantitative Economics

No. 12:—must have a wide background and general competence in Cultural Anthropology experience of teaching post-graduate calsses for at least 10 years and guiding and conducting research work, and must have done independent research work of recognised merit.

No. 13:—must have a Ph.D. degree in Industrial Psychology or independent published research work of a high order and experience of teaching work at the undergraduate and/or post-graduate level for five years.

No. 14:—must have a wide background and general competence in Public Administration, experience of teaching post-graduate classes for at least 10 years and guiding and conducting research work in Public Administration and must have done independent research work of recognised merit.

No. 15:—must have experience of teaching at the undergraduate and/or post-graduate level for five years. Further, they must have specialisation in Public International Law. Preference will be given to candidates with a M.A. degree in International Relations.

No. 16:—must have ten years' teaching experience at the post-graduate level or ten years professional experience.

No. 17:—must have Five years teaching experience in Law at Post-gaduate level or five years' professional experience.

No. 18: must have specialisation in Combinatories and/or Graph Theory and three years teaching experience at the post-graduate level or evidence of 3 years' post-doctoral research of high quality.

No. 19:—must be scholars of eminence, must have to their credit independent research work of recognised merit in the area of Theoretical Physics and must possess experience of teaching post-graduate classes and guiding advanced research. Aptitude for doing theoretical work relating to the experimental research programme of the Department is desirable. Active participation in the educational activities of the Department is expected.

No. 20:—must have to their credit post-doctoral research work of recognized merit. Working experience with charged particle accelerators will be considered as additional qualification. They must have specialisation in Nuclear Physics (experimental).

No. 21:—must have a wide background and general comptence in the subject, experience of teaching post-graduate classes for at least 5 years and guiding and conducting research work, and must have done independent research work of recognised merit. They must have specialisation in Urban Geography.

No. 22:—must have published work or research work of recognised merit in the field of specialisation. Experience of teaching post-graduate classes will be an additional qualification. They must kave specialisation in Agricultural Geography.

No. 23:—must have published work or research work of recognised merit in the field of specialisation. Experience of teaching post-graduate classes will be an additional qualification. They must have specialisation in Social Geography.

No. 24:—must have experience of teaching post-graduate classes. A Diploma in Cartography or experience in any Cartographic institution would be a desirable additional qualification. They must have specialisation in Quantitative and Cartography Techniques.

No. 25:—must be scholars of eminence must have to their credit research work of independant merit, must possess fairly long experience of teaching post-graduate classes and guiding advanced research in Physical Chemistry.

Nos. 26 and 27:—must possess fairly long experience of teaching of post-graduate classes and guiding research in repsective subjects.

Two copies of the application in the prescribed form, which can be had from the Registrar, should be submitted so as to reach the Registrar, University of Bombay, Bombay-32, on or before **20th July, 1977**.

Candidates called for interview will have to present themselves at their own expense.

Canvassing direct or indirect will be a disqualification.

K. S. KOLGE
OFFG. REGISTRAR

JAWAHARLAL NEHRU UNIVERSITY

Advt. No. Aca. III/4/77

Applications are invited for the following faculty positions:—

A. **SCHOOL OF INTERNATIONAL STUDIES:**

1. Professor/Senior Fellow of Diplomacy.
2. Professor/Senior Fellow of American/West European Studies.
3. Professor/Senior Fellow of International Organization.
4. Professor/Senior Fellow of South Asian Studies.
5. Associate Professor/Fellow of South Asian Studies.
6. Associate Professor/Fellow of International Trade and Economic Development.
7. Assistant Professor/Associate Fellow of South Asian Studies.
8. Assistant Professor/Associate Fellow of Japanese Studies.

Essential Qualifications:

For Post No. 1

(a) Consistently good academic record with at least a high second class Master's Degree in any of the Social Sciences or an equivalent qualification from an Indian/Foreign University; (b) A doctorate degree or published work of an equally high standard in the field of Diplomatic Studies; (c) About ten years' experience of teaching and/or research in the field of Diplomatic Studies; and (d) Considerable experience of guiding research in the field of Diplomatic Studies.

For post No. 2

(a) Consistently good academic record with at least a high second class Master's Degree in any of the Social Sciences or an equivalent qualification from an Indian/Foreign University; (b) A doctorate degree or published work of an equally high standard either in American Studies or in West European Studies, with special reference to developments in the 20th century; (c) About ten years' experience of teaching and/or research in American or West European Studies (d) Knowledge of either French or German in the case of a candidate in the field of West European Studies; and (e) Considerable experience of guiding research in American or West European Studies.

For post No. 3

(a) Consistently good academic record, with at least a high second class Master's degree in Political Science, Economics, or Law, or equivalent qualification from an Indian/Foreign University; (b) A doctorate degree or published work of an equally high standard on International Organization (c) About 10 years' experience of teaching and/or research in International Organization and (d) Considerable experience of guiding research in the field of International Organization.

For Post No. 4

(a) Consistently good academic record with at least a high second class Master's Degree in any of the Social Sciences or an equivalent qualification from an Indian/Foreign University; (b) A doctorate degree or published work of an equally high standard in the field of South Asian Studies; (c) About ten years' experience of teaching and/or research in the field of South Asian Studies, particularly relating to Bangladesh, Nepal, Pakistan or Sri Lanka; (d) Knowledge of at least one of the following languages; Bengali, Nepali, Sinhalese and Urdu; and (e) Considerable experience of guiding research in South Asian Studies.

For post No. 5

(a) Consistently good academic record with at least a high second class Master's Degree in any of the Social Sciences or an equivalent qualifications from an Indian/Foreign University; (b) A doctorate degree or published wrok of an equally high standard in the field of South Asian Studies; (c) About five years' experience of teaching and/or research in the field of South Asian Studies; (d) Knowledge of at least one of the South Asian Languages; and (e) Some experience of guiding research in South Asian Studies.

For post No. 6

Essential Qualifications:

(a) Consistently good academic record with at least a high second class Master's Degree in Economics or an equivalent qualification from an Indian/foreign University; (b) A doctorate degree or published work of an equally high standard in Economics; (c) Abuot five years experience of teaching and/or research in Economics; and (d) Acquaintance with mathematical and statistical method.

Desirable qualifications :

Specialisation in International Trade or Economic Development.

For post No. 7

(a) Consistently good academic record with at least a high second class Master's Degree in any of the Social Sciences or its equivalent qualification from an Indian/Foreign University; (b) **For Assistant Professor:** A doctorate degree or published work of an equally high standard in the field of South Asian Studies; or **For Associate Fellow:** Some teaching/research experience; and (c) Knowledge of one of the South Asian languages.

For post No. 8

Essential Qualifications:

(a) Consistently good academic record with at least a high second class Master's degree in any of the Social Sciences or its equivalent qualification from an Indian/Foreign University; (b) **For Assistant Professor:** A doctorate degree or published work of an equally high standard in the field of Japanese Studies; or **For Associate Fellow:** Some teaching/research experience; and (c) Knowledge of Japanese.

Desirable Qualifications:

(a) Some experience of teaching graduate classes; (b) first hand knowledge of Japan.

B. SCHOOL OF LANGUAGES:

9. Associate Professor/Fellow (Russian)

Essential Qualifications:

(a) Consistently good academic record with at least a high second class Master's degree in Russian or an equivalent qualification from an Indian/Foreign University; (b) A doctorate degree or published work of an equally high standard and (c) About five years' experience of teaching and/or research.

Specialisation: in theoretical grammar/linguistics/Soviet Literature, and experience of teaching post-graduate classes.

10. Assistant Professor/Associate Fellow (Arabic)
11. Assistant Professor/Associate Fellow' (French)

Essential Qualifications for 10 and 11

(a) Consistently good academic record with at least a high second class Master's degree in Arabic/French or an equivalent qualification from an Indian /Foreign University; (b) A Doctorate degree or published work of an equally high standard; and (c) Some teaching and/or research experience.

NOTE: (a) and (b) are for Assistant Professor; and (a) and (c) are for Associate Fellow.

Desirable Qualifications:

Assistant Professor/Associate Fellow (Arabic)

(a) Experience of translation from English to Arabic and vice-versa; (b) Knowledge of Modern Arabic Literature; and (c) Knowledge of some of the prominent Arab Dialects.

Assistant Professor/Associate Fellow (French)

Diploma in teaching language by audio-visual method and in French Phonetics from a recognised institution in France.

C. SCHOOL OF SOCIAL SCIENCES

Centre for the Study of Regional Development

12. Assistant Professor/Associate Fellow

Essential Qualifications:

(a) Consistently good academic record with at least a high second class Master's degree in Economics or its equivalent qualification from an Indian/Foreign University; (b) **For Assistant Professor:** A doctorate degree or published work of an equally high standard; or **For Associate Fellow:** Some teaching/research expeience; and (c) Good knowledge of statistical & Econometric methods and computer programming and should have done some empirical research.

NOTE: If none is found suitable for either post he may be considered for the post of Research Associate.

Zakir Husain Centre for Educational Studies

13. Associate Professor/Fellow or Assistant Professor/Associate Fellow in Economics/Sociology/Psychology.

Essential Qualifications:

Associate Professor/Fellow:

(a) Consistently good academic record with at least a high second class Master's degree in Economics, Sociology or Psychology or an equivalent qualification from an Indian/ Foreign University; (b) A doctorate degree or published work of an equally high standard; and (c) About five years' experience of teaching and/or research preferably in the field of educational studies.

Assistant Professor/Associate Fellow:

(a) Consistently good academic record with at least a high second class Master's degree in Economics, Sociology or Psychology or an equivalent qualification from an Indian/ Foreign University (b) A doctorate degree or published work of an equally high standard preferably relating to educational studies, and (c) Some teaching and/or research experience preferably in the field of educational studies.

NOTE: (a) and (b) are for Assistant Professor; and (a) and (c) are for Associate Fellow.

Scales of Pay;

Professor/Senior Fellow: **Rs.** 1500-60-1800-100-2000-125/2-2500.

Associate Professor/Fellow: Rs 1200-50-1300-60-1900.

Assistant Professor/Associate Fellow Rs. 700-40-1100-50-1600.

Research Associate: **Rs.** 700-40-1100-50-1300.

Plus usual allowances as admissible to the members of the staff of the Central Universities.

Relaxation in any of the qualifications may be made (a) in favour of persons of eminence or of high academic professional distinction, and (b) in exceptional cases where adequately qualified persons are not available but are otherwise found suitable for the respective positions. It will also be open to the University to consider the names of suitable candidates who may not have applied.

The selected candidates will be expected to participate in the teaching and research programmes in the concerned disciplines in other Schools of the University as well as in the programmes offered in their own Centres of Studies.

Normally appointment of Fellows and Associate Fellows is made on contract basis for a period ranging from one to three years.

Benefits of C.P. Fund-cum-Gratuity/ G. P. Fund-cum-Pension-cum-Gratuity are available as per University rules.

Persons already in employment should route their applications through proper channel. Due consideration will be given to candidates belonging to SC/ST at the level of Assistant Professor/Associate Fellow.

Second class (mail) rail fare (both ways) will be paid to candidates invited to appear for interview from outstation by the shortest route subject to the production of rail receipt.

Applications, on the prescribed form, obtainable free of cost from the University by sending a self-addressed and stamped envelope of 23cm. x 10cm. size to the Assistant Registrar (R & C), Jawaharlal Nehru University, New Mehrauli Road, New Delhi-110057, should reach him latest by **July 15, 1977**

Candidates from abroad, applying for faculty positions, may apply on plain paper, (but their applications should reach the University by the last date) furnishing all the relevant information such as their names; date and place of birth; marital status; nationality; state of domicile; postal and permanent addresses; father's name and address; academic and professional attainments; full details of (a) publications, and (b) research projects undertaken; language (s) known; details of visits to foreign countries; and the names and addresses of at least two persons well acquainted with the candidates professional work who should also be requested by the candidate to forward to the Assistant Registrar (R & C) confidential report concerning the candidate.

THE UNIVERSITY OF BURDWAN

Advertisement No. 3 Dated 21.6.1977

Applications in prescribed form are invited for the following posts. (1) Controller of Examinations (2) Inspector of Colleges. Provisional Scale of pay for both the posts is Rs. 1500-60-1800-100-2000-125/2-2250/- (Scale of pay will be finally prescribed and placement made therein on receipt of Government orders. Allowances and Contributory P.F. benefit will be admissible as per University rules.

Qualifications required: For (1) shall be a person of high academic distinction with experience of conducting educational or Public Service Examinations; For (2) Shall be a person of high academic distinction with experience of Colleges and their administration.

Higher initial pay may be allowed in deserving cases on the recommendation of the Selection Committee. For further particulars and application form apply to the office of the Registrar with a self addressed stamped (40p) envelope (9" x 4"). Last date for receiving applications is **16th July, 1977**.

REGISTRAR

JAMIA MILLIA ISLAMIA

Jamia Nagar, New Delhi-110022

Advt. 4/77-78

Applications on the prescribed forms, which can be had form the Registrar's **Office on any day (except Sunday and holiday) between 9.00 a.m. to 12.00 noon or by sending self-addressed and duly** stamped (25 paise) envelope of 23 x 10 cms. are invited along with the Postal Order of Rs. 3/- for the following posts so as to reach the Registrar's Office by 1.00 p.m. on **July 15, 1977.**

Ability to teach in Urdu and Hindi is a desirable qualification for the teaching posts and for non-teaching posts the functional knowledge of these languages is essential.

DA, CCA and HRA will be given as per Jamia Rules.

Relaxation in any of the qualification may be made on the recommendation of the Selection Committee in exceptional cases.

Readers—2 (Grade: Rs. 1200-1900): One in Psychology and the other in Education (Sociology) Temporary.

Good academic record with a first or high second class Master's degree of an Indian University or an equivalent foreign qualification, a Doctorate degree or equivalent published work in the subject concerned and Independent published work of a high standard in addition to the published work referred to above and at least 5 years' experience of teaching Hons/Post-graduate Classes or 10 year's experience of teaching undergraduate classes.

Lecturer in Education (Commerce) 1
Lecturer in Education (Biological Sciences)—1 (Leave Vacancy)
Lecturer in Education—1 (Leave Vacancy)
Grade: Rs. 700-1600.

Essential

(1) Consistently good academic record with a first or high second class (B†) Master's degree or an equivalent degree of a foreign University in a relevant subject, and (ii) at least high second class (B†) Bachelor of Education degree.

Desirable:

(1) A Doctor's degree or evidence of research work of equivalent standard in the subject concerned, and (ii) two years' experience of teaching at School/Training College.

Provided that if a teacher is not a Ph.D. at the time of his/her appointment and does not qualify himself/herself for the award of Ph.D. degree from a recognised univ. in the subject which is being taught by him/her within the period of 5 years from the date of his/her appointment or does not give evidence of research work of equal standard within that period in the subject concerned, he/she shall not be entitled to any future increments after the expiry of the said period of five years till such time he/she fulfils the above-mentioned requirements.

Lecturers (Faculty of Humanities and Sciences)—12: Grade—Rs. 700-1600.

Chemistry (Inorganic/Organic) — 1 (Leave Vacancy)

Medieval Indian History—1
Modern Indian History with specialisation in Social and Economic History of Modern India — 1: (Leave Vacancy)
English —2 (Leave Vacancy)
SocialWork—1
Persian —1
Urdu —1 } Temporary, likely to be made permanent

Economics—1
Persian—1
Arabic—1
Geography—1

Essential:

Consistently good academic record with a first or high second class (B†) Master's degree or an equivalent degree of a foreign University in a relevant subject/subjects.

Having regard to the need for developing inter-disciplinary programme, the Master's /Doctor's degree may be in relevant subject/subjects.

Desirable (in order of preference):

(i) A Doctor's degree/or evidence of research work of equivalent standard in the relevant subject. (ii) Teaching experience of Degree/Post-graduate Classes.

Provided that if a teacher is not a Ph.D. at the time of his/her appointment and does not qualify himself/herself for the award of a Ph.D. degree from a recognised University in the subject which is being taught by him/her within the period of five year's from the date of his/her appointment or does not give evidence of research work, he/she shall not be entitled to any future increments after the expiry of the said period of five years till such time he fulfils the above-mentioned requirements.

For the post of Lecturer in Modern Indian History specialisation in Social and Economic History of Modern India is preferable.

For the post of Lecturer in Social Work, LLB. degree in addition to the. qualifications in Social Work in desirable.

For the post of Lecturer in Geography, the candidate should have offered the Mathematical Geography or Cartography at Master's level. Preference will be given to those who have passed B.A./B.Sc. with Maths. or Statistics.

Lecturer—1 (Grade: 700-1300):
Department of Technology (Temporary):

At least second class Degree in Civil Engg. with 2 year's teaching experience in some Engineering Institute.

Professional Assistant—1
Grade: Rs. 250-400 (unrevised).

Second class B.A./B.Sc./B.Com. degree and second class B.Lib.Sc. degree with 2 years' experience of working in an established library.

Instructor—1 (Leave Vacancy
Grade: Rs. 440-750)

Diploma in Civil & Rural Engineering.

Nurse—1 (**Grade: Rs. 425-640)**

B.Sc. in Nursing or Diploma from a recognised Institute and at least one year's experience of working in any hospital. Candidates with experience in Surgical Obstetrics, Gynaecology ward and Operation theatre are preferred.

Important: Applications without attested copies or marks sheets, certificates etc. and prescribed application fee will not be entertained.

Zamir Hasan
OFFG. REGISTRAR

JIWAJI UNIVERSITY, GWALIOR

No. F.D./77/538/1844
Dated 21 June, 1977

Advertisement

Applications are invited on the prescribed form obtainable from the Registrar on payment of Re. 1/- in cash or by crossed I.P.O. with a self addressed envelope of 23 x 11 cms. size with postage stamp worth Rs. 2.40 affixed on it for the following post:

Application alongwith copies of testimonials and certificates must reach the Registrar's Office on or before **22 July, 1977.**

1. **Professor (Economics)** —1

Specialisation:

Economic Growth including theory of Economic development, planning and policy.

Scale of Pay:

1. Professor: Rs. 1100-50-1300-60-1600.

The above salary scale is likely to be revised, in which case the Qualifications as prescribed for revised scale will be applicable.

Qualification:

1. Professor:

(a) A first or second class Master's degree of an Indian University or an equivalent qualification of a Foreign University in the subject concerned,

(b) Either a Degree of the Doctorate standard or published work of high Standard.

(c) Specialisation in the relevant branch of the subject as mentioned against the post mentioned above.

(d) Not less than 10 years experience of postgraduate teaching and experience of successfully guiding research.

Desirable Qualification:

(i) Consistently good academic record in all examinations.

(ii) Working knowledge of Hindi.

Age Limit

Not more than 55 years for Professor on 1st July, 1977.

Preference will be given to Scheduled Caste and Scheduled Tribe Candidates, if otherwise qualified.

Contributory Provident Fund, dearness, other allowances and benefits will be available as per University rules. Appointment will be made on two years probation.

Candidates already in service must submit their application through proper channel. Candidates called for interview shall bear their own expenses for the journey.

Application for the post be sent alongwith a crossed I.P.O. worth Rs. 7.50 in the name of the Registrar, Jiwaji University, Gwalior so as to reach on or before the last date for receiving application as indicated above.

Applications without the prescribed application fee and/or incomplete in any respect and or received after the last date will not be considered.

A. K. Bhattacharya
REGISTRAR

THE UNIVERSITY OF BURDWAN

Advertisement No. 4 Dated 28.6.77

Applications in plain paper (six copies) incorporating complete Bio-data stating percentage of marks from Martic/S.F./H.S. to last University Examination passed, are invited for the following posts:

1. Reader in Political Science —one
2. Reader in Geography —one
3. Lecturer in Geography —two
4. Lecturer in Commerce —one
5. Lecturer in Zoology —one

Non-teaching posts

6. Assistant Secretary, Students' services—one
7. Bio-metrician—one

Scale of pay: Reader —Rs. 1200-50-1300-60-1900/-

Lecturer—Rs. 700-40-1100-50-1600/-

Assistant Secretary —Rs. 500-25-600-30-840-35-875/-

Bio-metrician —Rs. 700-40-900-E.B. 40-1100-50-1300/- plus usual allowances as admissible under the University rules. Posts under serial Nos. 1 and 5 are lien bound at present. Posts under Sl. Nos. 2, 3, 4, 6 and 7 are permanent. Persons appointed will be on probation for one year.

Minimum qualification for post No. 1, 2, 3, 4, and 5

(a) Doctorate degree or published work of an equally high standard;

and

(b) Consistently good academic record with 1st or high 2nd class (B†) Master's Degree in the subject or an equivalent degree of a foreign University:

Additional requirements for Readership-

(i) At least five years' teaching/experience in post-graduate class.

(ii) Ability to supervise Research work.

(iii) Publication of sufficient merit.

Specialisations required for

Sl. No. 1-Problems of Public Administration/International Relations.

Sl. No. 2-Specialisation in any of the branches of Serial Geography/ Population Geography/Economic Geography/ Urban Geography.

Sl. No. 3-Specialisation in population Geography for one and in Economic Geography for the other post.

Sl. No. 4-Post-graduate qualification in Management from any recognised University or Institute of Management with Specialization in Organisational Behaviour/Industrial Psychology/Labour & Industrial Relations/Man power Planning and Management of Human Resources/Labour Laws/Labour Economics.

Sl. No. 5-Specialisation in Parmitology/Ecology.

Sl. No. 6.-Must posses a good Master's degree and Honours at the Degree level and consistent good academic record. Must be conversant with the problems of students and administrative experience in resolving the students' problems in general. Preference will be given to a candidate possessing experience of dealing with student's problems.

For post Sl. No. 7-(a) M.Sc. in Botany Statistics/Agriculture (b) Ability to analyse statistically experimental and research data. Last date of receiving applications with requisite fee of Rs. 5/- (Payable by crossed I.P.O. drawn in favour of Finance Officer of the University of Burdwan. is **24th July, 1977.** Fees payable only for teaching posts i.e. except 6 & 7

A. K. Bane
REGISTRAR

LUCKNOW UNIVERSITY

Corrigendum to Advertisement
No. 2/1977

The corrigendum to Advertisement No, 2/1977 already published is hereby cancelled. The teaching posts advertised in Advertisement No. 2/1977 sanctioned in Fifth Five Year Plan will be filled on Permanent basis.

Kaushal Kishore
DEPUTY REGISTRAR

SAMBALPUR UNIVERSITY

Jyoti Vihar: Burla
No. 17746/TDS Dated 17.6.77
CORRIGENDUM

The last date of receipt of applications for the various teaching posts as advertised in this office advertisement No 17497/TDS dated 13.6.77 is 30th **July, 77** and not 30 June, 1977.

Sd/- G. P. Guru
REGISTRAR

Y BOARD OF INDIA
LIBRARY

INDIAN INSTITUTE OF TECHNOLOGY KANPUR
KANPUR-208016

Advertisement No. 13/77

Applications are invited for various faculty positions in the four Interdisciplinary programmes of the Institute in the following pay scales:

Professor: Rs. 1500-60-1800-100-2000-125/2-2500

Asstt. Professor : Rs. 1200-50-1300-60-1900

Lecturers: Rs. 700-40-1100-50-1600

The Programmes are seeking individuals with ability and aptitude for teaching, research and development in any of the areas of sepcialization listed under each. The number and positions available in each of the programmes are also indicated below:

1. **Computer Science Programme**
   - (a) Computer architecture
   - (b) Software engineering
   - (c) Information systems and data bases
   - (d) Data structures
   - (e) Nonnumeric computing
   - (f) Simulation and optimization

Number of Posts: Three (likely to be five)

Positions: Professors, Assistant Professors and Lecturers.

The computer Science Programme has an active postgraduate programme leading to M.Tech. and Ph.D. degrees. A number of sponsored projects in software development and real time systems are in progress.

2. **Industrial & Management Engineering Programme**
   - (a) Human factors engineering and work design
   - (b) Marketing and financial management of engineering projects
   - (c) Management information systems
   - (d) Production Management
   - (e) Integrated management of large systems
   - (f) Optimization of engineering and production systems
   - (g) Quality assurance and reliability engineering

Number of posts:Three (likely to be five)

Positions: Professors, Assistant Professors and Lecturers.

3. **Materials Science Programme**
   - (a) High strength high temperature materials
   - (b) Composite materials
   - (c) Electronic and magnetic materials including materials for energy conversion and storage
   - (d) Novel building materials

Number: of posts: Three (likely to be four)

Positions: Professor, Assistant Professors and Lecturer.

4. **Nuclear Engineering and Technology Programme**
   - (a) Reactor analysis and design
   - (b) Nuclear chemical engineering
   - (c) Reactor control and instrumentation
   - (d) Nuclear fustion
   - (e) Reactor heat transfer
   - (f) Nuclear materials and radiation effects
   - (g) Reactor safety

Number of posts: Three

Positions: Assistant Professors and Lecturers.

The Nuclear Engineering and Technology Programme leading to M.Tech. and Ph.D. degrees has been in operation at IIT Kanpur since July 1974. It has been set up to help meet the country's growing manpower needs for the development of Nuclear Energy. Laboratories for research and teaching in Nuclear Engineering and Technology include, in addition to the Institute's Van de Graaff facility, a Nuclear Heat Transfer Laboratory, a Radiation Detecting and Counting Laboratory, and various online Data Processing Equipments.

Qualifications: Professor:

Doctorate degree with good academic record and at least eight years of professional experience of good quality outside the work for the degrees.

OR

M.Tech. degree with good academic record and at least fifteen years of industrial experience with brilliant record outside the work for the degrees.

The candidates must have demonstrated ability of independence in teaching and research with significant contribution in the areas of specialization evinced by the adequate number of research publications of good quality in journals of repute and/or developmental project reports of equivalent merit.

Assistant Professor:

Doctorate degree with good academic record and at least three years of professional experience outisde the work for degrees.

OR

M.Tech. with good academic record and at least seven years of industrial experience outside the work for degrees.

The candidates must have potential for independence in teaching and independent research work as demonstrated by adequate number of publications of good quality in journals of repute outside the candidates own thesis, or equivalent development work done.

Lecturer:

Doctorate degree with a good academic record and adequate research development experience resulting in research papers of good quality.

OR

M.Tech. with good academic record and at least three years of teaching research industrial experience with good record outside the work done for degrees.

Desirable Qualifications:

(1) **Computer Science Programme:** A strong interest in developing undergraduate and postgraduate programmes including laboratory and curriculum development.

(2) **Industrial and Management Engineering Programme:** An engineering/technology degree for all posts.

Appointments may be made either full-time in a Programme or jointly between a Programme and any other appropriate department of the Institute. The Institute has ten departments of Aeronautical, Chemical, Civil, Electrical, Mechanical and Metallurgical Engineering and Chemistry, Humanities and Social Sciences, Mathematics and Physics.

The Indian Institute of Technology Kanpur has well equipped laboratories and central facilities. The Institute has a large Computer Centre with IBM 7044, IBM 1401, IBM 1800, PDP-1 systems with interactive graphic terminals and TDC-316 and a group of experienced programmers. The Institute has a well stocked library with more than 15,000 volumes and 1,300 periodicals. The central facilities include 2 MV Van de Graaff accelerator, 4096 multi-channel analyser and other radiation detection equipment, liquid nitrogen and liquid helium plants' NMR, EPR, Mass Spectrometer, D-ray plant, UV and IR Spectrometers, glass blowing shop, crystal growth facility, central instrumentation laboratory, precision machine shop, electron microscope besides a large workshop for fabrication of specialised research apparatus.

There is an Advanced Centre for Electronic Systems at the Institute. The Centre has been sponsored by the Ministry of Defence to carry out training and unclassified research and development work in the areas of communication and Radar. Besides. an Advanced Centre for Materials Science has been established recently at the Institute by the Government of India to undertake research in the frontiers of development on materials of national importance.

Posts are permanent and carry retirement benefits in the shape of CPF Scheme or CPF-cum-Gratuity Scheme or GPF-cum-Pension-cum-Gratuity Scheme as may be opted according to rules. The age of retirement is 60 years. During the first year the appointment will be on probation. Besides pay, posts carry allowances according to the Institute rules, which at present correspond to those admissible to the Central Government employees stationed at Kanpur. Higher initial pay is admissible to exceptionally qualified and deserving candidates. Candidates called for interview will be paid second class railway fare from the place of duty to Kanpur and back by the shortest route.

In the category of Lecturer, one post in each of the programmes will be reserved for SC/ST candidates. In the event of non-availability of SC/ST candidates, the reserved post would be treated as dereserved.

Applications from within India must be made on prescribed form obtainable free of charge from the Registrar of the Institute by sending a self-addressed unstamped envelope of 25 cm x 10 cm size. Applications should be accompanied by a postal order for Rs. 7.50 (Rs. 1.87 for Scheduled Castes/Tribes candidates).

Applicants from abroad may apply on plain paper enclosing a complete bio-data and names of three referees from whom reference letters may be obtained.

Applications should reach the Registrar, Indian Institute of Technology, IIT Post Office, Kanpur 208016 (India) on or before **July 15, 1977.**

UNIVERSITY NEWS, JULY 1, 1977. Regd. No. R. N. 7180/63 Postal No. D. (C) 534

RABINDRA BHARATI UNIVERSITY
CALCUTTA-700007

Employment Notice No. RB/19/1

APPLICATIONS are invited for the post of Professor of Drama in the Scale of Rs. 1500-60-1800-100-2000-125/2-2500 plus usual benefits of Contributory P.F., H. R. A. and D. A. as may be admissible in accordance with the University Rules. Higher initial pay admissible in any special case. Qualifications: Essential: (1) Good educational background with proper grounding in theorries; (2) Adequate experience in Direction, Stage acting, Production and Management of Theatre. Desirable: (1) Teaching experience in Drama; (2) Research Publication and ability to guide research students. Age: Not above 45 years as on 1.4.77, relaxable in cases of special merits. Please apply to the Registrar in prescribed forms (available from Jorasanko Office) along with attested copies of Mark-sheets from S.F. onwards by **July 16, 1977** positively together with a non-refundable fee of Rs. 5/-only by Crossed Indian Postal Order, payable to **RABINDRA BHARATI.**

UNIVERSITY OF KERALA

No. Ad.AI-4-2/76

Notification

Applications are invited from qualified candidates for appointment as Lecturers in the Institute of Correspondence Courses Kariavattom.

Name of subject		**No. of Posts**
Economics	—	1
Political Science	—	1
Indian History	—	1
World History	—	1
Commerce	—	2
English	—	1
Malayalam	—	1
Hindi.	—	1

Scale of Pay Rs. 600-1250

Appointments will be made in accordance with Section 6, Sub Section (II) of Chapter II of the Kerala University Act of 1974.

The details of qualifications, age, etc. and application forms can be had from the Deputy Registrar (Administration), University of Kerala, Trivandrum on production of a receipt for Rs. 2/- from the State Bank of Travancore or crossed Postal Order drawn in favour of the Finance Officer, University of Kerala, Trivandrum specifying the post for which applications forms are required.

The last date for receipt of applications is **20th July, 1977.**

Sd/-
A. Sreedhara Menon
REGISTRAR

ALIGARH MUSLIM UNIVERSITY

Advertisement No. 9/77-78

Applications, on the prescribed form, are invited for the following posts:

1. **Readers in Geology (One in Structural Geology and one in Hydrogeology)-Plan Posts Scale Rs. 1200-50-1300-60-1900 plus Allowances.**

Qualifications:

(a) A first or a high second class Master's degree in the subject concerned of an Indian University or an equivalent foreign qualification; (b) A research degree of a doctorate standard or published work of a high standard; and (c) At least five years experience of teaching postgraduate classes and some experience of guiding research.

Desirable:

Considerable experience of field work in Structural Geology for one post and in Geological Investigation of Ground Water for the other post.

Note:

Seperate application forms are required for the above two posts.

2. **Lecturers in Anatomy (2 posts-One permanent and one temporary). Scale Rs. 700-40-1100-50-1600 plus allowances.**

Qualifications:

M.S. (Anatomy) or its equivalent as specified by the Medical Council of India and three years teaching experience as Tutor/Demonstrator in a Medical College of which one year should be after obtaining the Postgraduate qualifications.

Desirable: published work.

Note:

Candidates must possess Medical Qualifications included in first or second Schedule or Part II of the third Schedule (other than licentiate qualifications) of the Indian Medical Council Act, 1956. Holders of educational qualifications included in Part II of the third Schedule should fulfil the conditions stipulated in Section 13(3) of the Indian Medical Council Act, 1956. Must possess a basic University or equivalent qualification entered in Schedules under State/Central Medical Registration Act. (For the posts at Sl. No. 2 only)

Prescribed application forms and instructions may be had from the Deputy Registrar (Executive) either personally or by sending a self addressed envelope of 23 x 10 cm. Last date for receipt of applications is **16th July, 1977**. Incomplete applications and those received late may not be considered.

Higher initial start may be given to candidates possessing exceptional qualifications and experience. Candidates interviewed may be paid contribution towards their T.A. equal to one single second class railway fare only.

(Jamalur Rahman)
REGISTRAR

INDIAN INSTITUTE OF TECHNOLOGY KANPUR IIT POST OFFICE
KANPUR-208016

Advertisement No. 14/77

Applications are invited for one post of Senior Medical Officer at the Health Centre of the Indian Institute of Technology, Kanpur.

Scale of Pay:

Rs. 1100-50-1600 plus non-practising allowance as per Central Government Rules.

Qualifications and Experience:

The candidate should be M.D. (Med.)/M. R. C. P./M. S. (Surgery) or its equivalent from a recognised university with atleast 5 years of experience after graduation, relaxable under exceptional cases of high professional experience and competence. Knowledge or broad background of internal medicine is essential.

Private practice of any kind will not be allowed. Adequate clinical and investigational facilities exist in the modern and well staffed 30-bed Institute Health Centre. The selected candidate will be required to administer the hospital in addition to his clinical work.

Upper Age Limit:

45 years as on 1st July, 1977. In case of retired army Medical Officer, age limit relaxable upto 5 years.

The post is permanent and carry benefits in the shape of CPF or CPF-cum-Gratuity Scheme or GPF-cum-Pension-cum-Gratuity Scheme as may be opted according to rules. The age of retirement is 60 years. For the present appointment is temporary for one year and may be made permanent subsequently. Besides pay and NPA, posts carry allowances according to the Institute Rules, which at present correspond to those admissible to Central Government employees stationed at Kanpur. Free and unfurnished residential accommodation will be provided on the Campus. Residence at Campus is compulsory. Persons already in Government or Semi-Government organisations should apply through proper channel. Candidates called for interview will be paid second class railway fare from the place of duty to Kanpur and back by the shortest route as permissible under the rules.

Application should be made on the prescribed forms obtainable free of charge from the Registrar of the Institute by sending a self-addressed unstamped envelope of 25 cm x 10 cm size. Applications should be accompanied by a postal order for Rs. 7.50 (Rs. 1.87 for SC/ST candidate).

All applications should reach the Registrar, Indian Institute of Technology, Kanpur IIT Post Office, Kanpur latest by **July 25, 1977.**

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University
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A CHRONICLE OF HIGHER EDUCATION & RESEARCH JULY 16, 1977 80 PAISE

Education Minister, Dr. P.C. Chunder, at the meeting of the Standing Committee of the AIU held in New Delhi
y. Seated on his right are Dr. S.M. Singh 'Suman', President, AIU and Dr Satish Chandra, Chairman, UGC.

LIBRARY

CLASSIFIED ADVERTISEMENTS

INDIAN INSTITUTE OF TECHNOLOGY, KANPUR
KANPUR-208016

Advertisement No. 15/77

Applications are invited for the posts of Professors, Assistant Professors and Lecturers in the three departments of the Institute in the following pay scales:

Professor	: Rs. 1500-60-1800-100-2000-125/2-2500
Assistant Professor	: Rs. 1200-50-1300-60-1900
Lecturer	: Rs 700-40-1100-50-1600

The departments are seeking individuals with ability and aptitude for teaching in undergraduate postgraduate programme, research and development in any of the areas of specialization listed under each. The number of positions available in each of the departments are also indicated below :

1. **Department of Aeronautical Engineering** :
   - (a) Aerodynamics (preferably flight mechanics/Aircraft design)
   - (b) Propulsion (preferably in Gas-turbines/Rocket propulsion)
   - (c) Structures (preferably in Random Vibrations)

Number of positions: **Two** (likely to be three)

2. **Department of Mechanical Engineering** :
   - (a) Manufacturing Science
   - (b) Design
   - (c) Automatic Controls
   - (d) Solid Mechanics
   - (e) Fluid Mechanics
   - (f) Thermal Science

Number of positions : **Seven** (likely to be ten)

3. **Department of Chemistry**:
   - (a) Inorganic Chemistry
   - (b) Nuclear Chemistry
   - (c) Organic Chemistry
   - (d) Physical Chemistry

Qualifications for Positions in Aeronautical and Mechanical Engg. Departments

Professor:

Doctorate degree with good academic record and at least eight years of professional experience of good quality outside the work for the degrees

OR

M.Tech. degree with good academic record and at least fifteen years of industrial experience with brilliant record outside the work for the degrees.

The candidates must have demonstrated ability of independence in teaching and research with significant contribution in the area of specialization evinced by the adequate number of research publications of good quality in journals of repute and/or developmental project reports of equivalent merit.

Assistant Professor

Doctorate degree with good academic record and at least three years of professional experience outside the work for degrees.

OR

M.Tech. with good academic record and at least seven years of industrial experience outside the work for degrees.

The candidates must have potential for independence in teaching and independent research work as demonstrated by adequate number of publications of good quality in journals of repute outside the candidate's own thesis, or equivalent development work done.

Lecturer:

Doctorate degree with a good academic record and adequate research/development experience resulting in research papers of good quality.

OR

M.Tech. with good academic record and at least three years of teaching, research/industrial experience with good record outside the work done for degrees.

Desirable Qualifications:

Basic degree in Engineering/Technology for all positions.

Qualifications for Positions in the Department of Chemistry

Professor :

Doctorate degree with good academic record and at least eight years of professional experience of good quality outside the work for the degree.

The candidates must have demonstrated ability of independence in teaching and research with significant contribution in the area of specialization evinced by the adequate number of research publications of good quality in journals of repute and/or developmental project reports of equivalent merit.

Assistant Professor:

Doctorate degree with good academic record and at least three years of professional experience outside the work for degrees.

The candidates must have potential for independence in teaching and independent research work as demonstrated by adequate number of publications of good quality in journals of repute outside the candidate's own thesis, or equivalent development work done.

Lecturer:

Doctorate degree with a good academic record and adequate research experience resulting in research papers of good quality.

Desirable Qualifications

Master's degree in Chemistry for all positions.

The Indian Institute of Technology, Kanpur has well equipped laboratories and central facilities. The institute has a large computer centre with IBM 7044, IBM 1401, IBM 1800, PDP-1 systems with interactive graphic terminals and TDC-316 and a group of experience programmers. The Institute has a wel stacked library with more than 150,00 volumes and 1,300 periodicals. Th central facilities include 2MV Van d Graaff accelerator, 4096 multi-channe analyser and other radiation detectio equipment, liquid nitrogen and liqui helium plants, NMR, EPR, Mass Spectrometer, X-ray plant, UV and IR spectrometers, glass blowing shop, crysta growth facility, central instrumentation laboratory, precision machine shop, electron microscope besides a large workshop for fabrication of specialised research apparatus.

There is an Advanced Centre for Electronic Systems at the Institute. The Centre has been sponsored by the Ministry of Defence to carry out training and unclassified research and development work in the areas of communication and radar. Besides, an Advanced Centre for Materials Science has been established recently at the Institute by the Government of India to undertake research in the frontiers of development on materials of national importance.

The campus facilities include a Primary and Higher Secondary School, a Health Centre and Shopping Centre.

Posts are permanent and carry retirement benefits in the shape of CPF Scheme or CPF-cum-Gratuity Scheme or GPF-cum-Pension-cum-Gratuity Scheme as may be opted according to rules. The age of retirement is 60 years. During the first year, the appointment will be on probation. Besides pay, posts carry allowances according to the Institute rules, which at present correspond to those admissible to the Central Government employees stationed at Kanpur. Higher initial pay is admissible to exceptionally qualified and deserving candidates. Candidates called for interview will be paid second class railway fare from the place of duty to Kanpur and back by the shortest route.

In the category of Lecturer, one post in each of the Departments will be reserved for SC/ST candidates. In the event of non-availability of suitable SC/ST candidates, the reserved posts would be treated as dereserved.

Applications from within India must be made on prescribed form obtainab free of charge from the Registrar of the Institute by sending a self-addresse unstamped envelope of 25 cm x 10 cm size. Applications should be accomp nied by a postal order for Rs. 7.5 (1.87 for SC/ST candidates).

Applicants from abroad may app on plain paper enclosing a comple bio-data and names of three refere from whom reference letters may obtained.

Applications should reach t Registrar, Indian Institute of Techno gy, IIT Post Office, Kanpur-2080 (India) on or before **30th July, 1977.**

UNIVERSITY NEWS

Vol. XV **JULY 16**
No. 14 **1977**

A Fortnightly Chronicle of Higher Education **Price 80 Paise**

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Editor : ANJNI KUMAR

AIU for reconsideration of Sen's recommendations

The Standing Committee of the Association of Indian Universities has called for reconsideration of certain conditions attached to the revised scales of pay introduced by the UGC for university and college teachers four years ago. While general guidelines in respect of hours of work and allied matters had been indicated in the report of the Sen Committee, the matter had not been concretised in terms of lectures, laboratory work, contact hours, extra-curricular activities and such other matters. This had led to a certain amount of avoidable wrangling in more than one university. The issue therefore required to be attended to on an urgent basis at the national level.

Furthermore, the Committee also wanted reconsideration of the present decision not to pay remuneration to teachers for examination and invigilation. A number of complications had arisen since this step was taken. This has had an adverse effect on the conduct of examinations.

Yet another matter in regard to which there was lack of clarity was the code of conduct for teachers about which the Sen Committee had made certain broad suggestions. Several universities had prepared such codes of conduct. In certain other cases the State Governments had formulated certain guidelines but these were not found acceptable by teachers. In a couple of cases it had also led to legal complications. A code of conduct by definition has moral and social sanction behind it rather than legal force. It is important therefore to involve teachers as well as educationists in the formulation of such a code. Above all, it is necessary to have a code which is common to all the universities, especially in matters governing the ethics of teaching and inter-personal relationship with students and colleagues. However it needs to be emphasised that a code of conduct is different from service conditions. Hours of work and such other matters, for instance, come more under the category of service conditions than a code of conduct.

The Committee also proposed that provision should be made in every university in regard to assessment of output, consistency and quality of work and intellectual growth in respect of every single teacher, including University Professors. The Committee suggested that in future all University Professors should be appointed on a tenure basis for a period of five years, the contract being renewable subject to assessment of the work done by the Professor concerned.

The Committee also considered the question of the constitution of Students Unions. It felt that to draw up a model constitution would not be a very feasible proposition. Universities had different practices in this regard and it might not be so easy to bring them into line with one another. There were two principles however which must be affirmed to be of paramount importance and every university should seek to ensure that whatever be the details of the constitution drawn up for the students union, the following guidelines be observed:

(i) Membership of the union should be optional. Those who wish to join may join and those who do not wish to join should not be obliged to join.

(ii) While elections are an important part of any system of representation, recourse to other modes of selection such as rotation, ex-officio membership and nomination in certain cases may be taken, as and when called for.

The Committee took serious note of some of the recent happenings on the campuses. Instances were brought to its notice where intimidation had been used to get certain decisions taken and/or altered. This had resulted in serious impairment and disruption of academic

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Role of Universities in Integrated Rural Development

R. C. Hiremath*

The regeneration of our rural society dependent heavily on agriculture has been the cherished goal of our national economic policy. If fact, the World Bank and many other development agencies interested in rural development, have extended their hands of cooperation with a view to encourage the national governments to intensify the development programmes for the rural masses, which constitute a major segment of the population in almost all developing countries. In India, most of the rural masses being dependent on agriculture, it is but natural that the national government spends a good deal of public funds on the development of agriculture, and the development of agro-based industries, in rural areas. It is not for me to say that the rural population suffers from inadequacy of all sorts and as a consequence lives at the lowest levels of living. Our village community life in the past was a model of stability, continuity and prosperity; and the glories of this rich and cultural life was sung in no uncertain terms by the eminent historians. But, unfortunately, continuous foreign invasions and the ultimate domination of the British, not only gave a death-nell to the self-reliant and viable community life in India, but also pushed back the economy to the level of stagnation and decay.

Soon after the attainment of political independence, the desire to transfer stagnant economy with diversities of culture, language and resources into a self-generating and self-sustaining economy became intense, and the same intensity found its expression in a series of 5-Year Plans initiated in early 1950's. It is heartening to note that we have made tremendous progress in almost all aspects of our economy and especially in industry, agriculture, transport and education and social welfare. In agriculture, we have experienced phenomenal change—both in qualitative and quantitative terms. In industry too our progress is phenomenal ; our achievements in electronics and other mechanical gadgets are really a major landmark in the industrial progress of our country. Indeed, the degree of sophistication and diversification in production technology which India has achieved in recent years could stand comparison with their counterparts anywhere in the world. The same could be argued with regard to the progress in education, communication and social welfare etc. and other equally important areas.

But on reflection, when we turn from Macro to micro-level, we do not get very promising picture. For example, the GNP, per capita income, consumption standards, per capita availability of foodgrains, longevity etc. have gone up. But distance between the man and man has increased ; inequality of income has become more pronounced and a sense of frustration and isolation has been writ large on the faces of rural masses.

Any strategy for economic development of India must concentrate on all round development of India's six lakh villages, where India's 80% population lives in abject poverty. It is also unrealistic to hope to achieve all round economic development unless we try to pass on benefits of development to the rural poor ; and encourage them to be a willing partner of the national reconstruction process. The new strategy for rural development will involve an application of science and technology so as to raise the production and productivity of small and marginal farmers and thereby enlarging avenues of gainful employment opportunities. Naturally this will lead to diversification of rural occupations and at the same time help raise the living standards of the rural community.

A provision of Rs. 15 crores was made in the last year's budget for various programmes for rural development based on the scientific use of locally available resources—human, animal, plant, soil, water, minerals etc. The new programme differs from the earlier programmes in more ways than one. Not only does it provide the missing links in the form of action plan for the scientific use of resources, the introduction of science and technology for the optimum use of land and involvement of scientific institutions and youth organizations, but also it involves several non-official organisations including the Federation of Indian Chambers of Commerce & Industry and Associated Chamber of Commerce & Industry.

It is really heartening to observe that the captains of Industry have, for the first time, involved themselves in the process of rural development by adopting villages, forming consortia of companies in specific areas, increasing productivity per hectare through assistance rendered to individuals and associations, helping agro-centres, starting labour-intensive industries in rural areas, where surplus manpower and other inputs are easily available.

What is the role of University in such a challenging programme of rural development and in what way the university could contribute to the task of rural enrichment? I would like to add some more meaning to the concept of rural development. In most cases we seem to use the concepts of rural development and agricultural development interchangeably. In fact, the concept of rural development is more broader, and is and should be generally conceived of as a multi-sectoral activity which includes, besides agricultural development and rural industry, the establishment of social overheads such as schools, health clinics, roads communications, protective water supply, disease control, improved nutrition, adult literacy and welfare programmes, and the last but not the least is Family Planning.

At present it seems that some of the rural development programmes are "selective" in the sense that they cover a particular activity like minor irrigation, bunding, cattle breeding, health, education or Family Planning. There is hardly any attempt made to '*integrate*' these activities. I, therefore, feel it desirable to emphasise that the rural development is an integrated multi-sectoral activity which includes the development of agriculture and social overhead facilities needed for the rural community. The second reason as to why the distinction between the rural development and agricultural development is warranted is because of the fact that the latter is associated with the growth of productivity and agricultural output, while the former is conceived in terms of enrichment of the material and social welfare of rural population—especially rural poor and landless agricultural labourers.

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*Vice-Chancellor, Karnatak University.

In recent years, we have witnessed a phenomenal growth of cooperative societies—especially in the field of agriculture. The total agricultural credit disbursed by cooperatives has increased from Rs. 30 crores in 1950-51 to Rs. 950 crores in 1973-74. Though this is a commendable record of progress, the fact remains that the cooperative credit tended to flow predominantly in favour of the rural rich as compared to the weaker sections of the society. This is mostly because of the development of the vested interests within the cooperative sector who try to monopolise most of the benefits accruing from the cooperative movement. Secondly, the dice are also landed in favour of the rural rich, because it is they who have the required resistance capacity whenever natural or environmental calamities take place. Thus in order to make the weak in rural society to withstand some of these failures, it is necessary to evolve a new strategy that can ensure at least the minimum income. I venture to suggest that the University departments can evolve suitable technology suited to local conditions and suggest appropriate cropping pattern. In the application of such newly evolved technology the emphasis ought to be on the use of available local resources. The application of this technology should assure at least the minimum income required to withstand environmental limitations for which he is exposed very often.

It is not only in the field of cooperative credit that the so called 'rural elite' had the major share but also in almost all developmental programmes implemented through various Five-Year Plans. Realising that the weaker sections of the society remained as they were before, various programmes like Minimum Needs Programme, SFDA, MFAL, DPAP, Nutrition programme etc. which were specially meant for rural weak, were taken up in the Fourth and Fifith Plans, and I am sure that these programmes would contribute a good deal to the rural development.

Coming to the role of education and particularly university education, the present trend stands for strengthening and perpetuation of the *status quo* i.e. continuing the pursuit of knowledge, excellence and development of skilled personnel. But I feel that the univertities can play a more dynamic role apart from the traditional ones by moving closer to life and addressing themselves to an intensive programme of rural reconstruction, and this could be initiated by the formation of brain trust of students and staff drawn from different faculties to plan, direct and participate in the progressive measures undertaken for rural progress. They can assist various Government agencies in the implementation of plan and non-plan schemes besides directly assisting the villagers in improving the roads, better the hygienic condition and farm operations. Service to the community being the major objective, the university will have to undertake various indepth studies of its surrounding region in all its aspects through its various departments and institutions. I am sure that each department of the university can make its own unique contribution to the programme which could include agricultural development, organisation of local industries, development of improved health delivery system, and educational services, conduct of non-formal education for out-of-school youth and so on. It is high time that Social Service be included as an integral part of our syllabi for various degree courses.

The use of students power in the national reconstruction is another important programme which all universities must try to develop. The present youths seem to suffer from a sense of isolation. They have no identity and have no pear-group to inspire and involve in constructive and asset-creating activities. The universities have to devote more time and energy for youth development programme, which should aim at the creation of enlightened and committed leadership needed for social developments.

I may also mention that university may function as a link between local community and development financing agencies, so that the transfer of science and simple technology to the rural masses be smooth and easy. For example scientific knowledge in plant breeding will ensure the development of drought resistant character of crops that could be indroduced in areas where rainfall is not sure. I am confident that active participation of universities in such programmes will surely help secure the most favourable results that are necessary for changing rural environment.

A programme for the education of out-of-school youth in the age-group 14-21 years by the university students has a special significance in a poor country like ours. Investment in education is necessarily long-term and begins to yield results after a longer period. Developing countries like ours are hard pressed for time and resources, and hence the need for finding out such educational programmes which can yield quick results. Several programmes such as adult literacy on-the-job-training of industrial workers, agricultural extension and so on. But, of all these, probably the most significant and far reaching would be a crash programme for the education of young persons in the age-group of 14-21 which account for about 20% of the total population. A large percentage of population in this age-group is generally, alert, inquisitive, impressionable and capable of being

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Concept and Significance of a Rural Varsity

G. Ramachandran*

The first thing to remember is that the Rural University will be a University. The adjective 'Rural' will not make it less than a University. Nor will it necessarily make it anything much more than a University. The Rural University will have quite a number of features common to Universities. It would be appropriate however, to say that it would be a University with a difference. It would be a somewhat different type of a University. I shall indicate where the difference would be. Let us go on step by step. Can we not all agree that a Rural University must be located in a rural area? For, one of the special features of a Rural University would naturally be its close association with as many villages around as possible. The setting must be rural because you cannot have a Rural University in big cities like Bombay or Delhi or Calcutta. It is not, however, difficult to conceive of an Urban type University located in a rural area. Thus, location alone will not make a University a Rural University. We can have a big Industrial plant located in a rural area but that will not make it a rural industry. It would simply be a very big industry in a rural area with certain facilities which the rural area alone can furnish including cheap labour. But a rural industry will be something inside the rural area which village people can understand and handle, making use of local raw materials to produce finished articles needed by the people and thus giving themselves of gainful employment. This would be a fairly apt definition of a rural industry. This need not mean ruling out the use of power. We can have village industries producing better articles more efficiently and priced cheaper through the use of power in villages. If we organise a number of cottage and village industries in a rurai area in an integrated manner, we get a rural industries complex functioning for the rural people to get employment, wages and consumer articles they need.

We can follow this line of thinking in regard to a Rural University. First, it is located in a rural area. Even while the teaching and learning of several subjects as in other Universities go on, these will be oriented to look at the realities in the village and deal with the problems arising from them. We want the rural areas to be cleaner, more prosperous and more enlightened and educated. We want rural life to be better organised through local bodies. We want to bring more happiness to the men, women and children in the rural areas. We want to bring elementary scientific knowledge to the people. Our aim is thus integrated rural development. A Rural University must become the instrument in diverse ways to achieve integrated rural development.

It is impossible anymore for University education in India to sit in ivory towers. University education needs to be linked with the daily life of the people who are in the grip of poverty, malnutrition, ill health, ignorance of elementary science, in superstitions of every kind and in frustration and growing anger. If higher education will not go out of the classrooms to help the people, a day will come when the people will care little for such education and may even turn against it. Universities have created a gulf between the educated few and the uneducated many. In spite of several current well intentioned schemes to bridge this gulf, it keeps on widening and threatening. The educated few turn their backs on the village and hanker more and more after urban life and urban employment which, alas, is nearly reaching the saturation point. The aim of every boy and girl coming out of the universities today is a white collar job. This is true even of agricultural, engineering, technical and science colleges and institutes. We need a revolution inside the classroom and equally outside in the life of the people. The call for non-formal education is now rising into a crescendo. The actual problems and challenges in the life of the people must find echoes inside where teaching and learning are going on to find answers and solutions. These answers and solutions will have then to be tested outside in projects of practical work among the people. Extension comes into the picture at this stage with overwhelming importance. It is at this point again that problem oriented research also comes in with equal importance. Research and extension must cross-fertilise each other all the times. Such research and extension and sound and scientific academic knowledge become the foundation of a Rural University.

We hear it repeated by everyone from every side that the rural community in India even today comes to nearly 80% of the total population, Having mentioned this fact with gusto, we go on doing things as though the 20% in the towns and cities were more important than the 80% in the rural areas. The result is the double evil of ignorance and unemployment which is eating into the vitals of rural India. Unemployment and ignorance are first cousins. These two evils will have to be attacked simultaneously. Illiterate and ignorant people will not forge employment and unemployment feeds ignorance. The Rural University will have to attack ignorance and unemployment through every programme of study and extension. That is why it is imperative that academic studies should turn in the direction of the realities in the life of the rural people and extends on become the link between knowledge and those realities. Without establishing this link no Rural University will justify itself.

For a university the instrument of change can only be knowledge. This is true of Urban and Rural Universities. Both must inculcate knowledge. The area of knowledge is naturally unlimited. The Rural University may not aim at the acquisition and spreading of every kind of knowledge. Even an Urban University cannot work on a limitless canvas. We, therefore find universities picking and choosing their courses of studies and their areas of specialisation. The

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**Vice-Chancellor, Gandhigram Rural Institute.*

Rural University will also do the same. It will pick and choose subjects of study closely relevant to integrated rural development. Let us now therefore understand something of the meaning of integrated rural development. Adequate and nourishing food, clothing, housing, sanitation and health, universal literacy, elementary scientific knowledge and a working knowledge of social sciences and organisations are the challenges in the area of rural higher education. The Rural University will therefore study these matters in the classrooms. What then will be the difference between these studies in the Rural University and the Urban University? Let me give one or two examples. Let us take the study of economics. In the Rural University we shall stress far more rural economics i.e. the economics of agriculture and agro-industries than the economics of big industrialisation. The Khadi and Village Industries Commission of India, a statutory Commission set up by the Parliament, has undertaken through the years much research in Village Industries as also much study of rural economics. The Commission produces articles through modernised rural industries worth about Rs. 200 crores and gives employment to more than two million people. No university has taken any interest in the ideals and work of the Commission. The Rural University on the other hand will establish close relations with this Commission, both in the area of theory and the area of practicals. Let us take another example, that of rural sanitation. We will find at once that rural sanitation is not identical with urban sanitation. Instead of flush latrines as in the cities, we shall have to organise trench latrines to conserve valuable manure. The compositing of manure will mean both sanitation and the fertilisation of the soil at the same time. In the field of nutrition also hand-pounded rice and chakki-pressed oil will become matters of greater importance than the establishment of rice and oil mills. These economic measures cannot hang in the air without the theory of certain economic values standing behind them. The Rural University will take cognizance of these theories and practicals. Thus knowledge itself will have to become rural oriented and the instrument of rural development.

Literature and Fine Arts will certainly be in the Rural University. Villagers will need poetry and music and dance and painting even more than the urban people to whom many other recreations will be available. There is in our country a vast treasure of folklore and folk arts lying buried under the debris of centuries. Research and study in this area will be right inside the teaching and learning programme of the Rural University. Even as it is, there is widespread interest in folklore and folk arts. Some specialised agencies are now taking care of these treasures in our historic culture. The Rural University will give more care and attention than ever before to them.

I have covered fairly wide ground in this brief study of the concept and significance of a Rural University. There is much more to say on the subject but what I have said will, I hope, provoke further thinking on the subject. As I have pointed out it will not be easy to achieve the fullness of integrated rural development because this will mean touching rural life at every point and rejuvenating each one of them. We will love the villages and serve them but we do not want them to remain in the old ruts. We want to improve production, spread knowledge and raise the standards of life of the people. Education alone can become the mighty lever to shift the villages from the past into the future. It would be totally wrong to create any conflict between the vital interests of rural and urban India. In the words of the great English Sociologist, Patrick Geddes, the revolution we need is the true marriage between the village and the town. Each has something to contribute and to enrich each other. The Rural University will sort out the problems and challenges of this grand alliance to make the villages prosperous, progressive and happy. This aim is total and massive but without achieving it there is no future for our people. ☐

Role of Universities in Integrated Rural Development

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inspired by emotional commitments to the service of the people and the country. It is, therefore, quite rewarding to undertake this massive programme for the education of this age-group, by the Universities in the region.

When, once we assign this role for the universities, the details like how to involve teachers and students, what should be the content and character of the programme, the organisational problems related to this programme pose no problem and can be solved through discussions and seminars. What is important is the need for change in the attitudes of teachers and student and willing acceptance of challanges opened up by the programme which is need-based. To some extent we are already doing such a job through our extension services, but such programmes have to be given a big push with clarity of thought and a sense of purpose in order to speed up the tempo of economic development.

The advantages of such a programme are immense: (1) university students would not be easily led away by the political parties and would be able to take a detached view of the problems in question; (2) their energies would be diverted into constructive channels of social service and national development. These gains are so important that any effort to obtain them would be worthwhile and fully justified. I may recall the contributions of educational institutions established and encouraged by Mahatma Gandhi. They trained a large and committed band of freedom fighters who played no small part in winning independence for the country. Today the situation is similar though somewhat different. We have to wage a more difficult and relentless job against mass poverty, ill-health etc. The universities have to accept this challange and do their bit for the welfare of the masses by moving closer to masses and if they do so they would not only justify their existence but also the enormous investment that has gone into them. ☐

CAMPUS NEWS

Bombay's effort to link jobs with courses

(From our special correspondent)

Bombay University has made use of the switch-over from the old pattern of two-year degree course to the three-year course, to restructure the syllabi as called upon by the UGC, to make them "relevant to the rural environment and to the developmental needs of the community."

The university authorities kept in mind its twin roles of being a metropolitan centre of higher education and also a caterer of rural students in Thane, Kulaba and Ratnagiri districts, while restructuring the courses.

Although the university followed the UGC guidelines and its specific directive that "restructuring of courses should not be either mixed up or linked with the introduction of job-oriented courses," some syllabi have a definite advantage of giving the degree-holder confidence and competence in facing the job market.

The syllabi are being implemented from this academic year. Students who join their degree courses this year can take up a study of rural development in five papers common to the arts, commerce and science faculties. Claimed to be first of its kind in India, the course in rural development, is optional. Dr. B.M. Udgaonkar, member of the UGC, recently described the introduction of this subject, "revolutionary".

The university held an orientation programme for 11 teachers from its constituent colleges to help introduce the subject in the first-year degree curriculum itself. Aswali, an adivasi village, which has been a hot-bed of social service activities by Bombay collegians for the past five years, has been selected as the "rural laboratory" for the study of this subject.

Another unique feature of the new courses is their inter-disciplinary character. Students of B.A. can now study some science and commerce subjects. Students of science can learn law, economics, psychology and subjects under the commerce faculty. Commerce students also can learn law, humanities, and a science subject—mathematical and statistical techniques.

The restructuring of the commerce degree course has a bigger magnitude than the other two. The course in commerce has been drawing ever-increasing number of students in the university and a proposal to reorient the old course to the requirements of the city commercial job market, made five years ago, could now be taken up along with the restructuring.

All the same, the commerce degree course encompasses a study of "rural environment" like community development, panchayati raj and farm management including financing.

For the city-oriented students, four new subjects are available. The subject, "export management," is already a hot favourite of those who joined the B. Com. degree course on June 16, when the colleges reopened.

The other three new subjects are 'marketing research,' 'the regulation of trade practices' and 'advertising.' The syllabus lays down that on completion of a study of the export management, the degree-holder is expected to participate meaningfully in the work of any export organisation or export-oriented industry. The study involves taking up five actual cases, besides lectures and tutorials. The syllabus for marketing research and regulation of trade practices also aims at practical knowledge and improvement of skills.

The introduction of 'advertising' and 'business communication,' two new subjects, aims at equipping a commerce graduate with necessary skill and knowledge to play his role in the field of mass communications allied with the business world.

Side by side their introduction, a paper in English is also being introduced for the B.Com. student to give him adequate language skill.

A new subject which can be taken up by students of not only B. Com., but also B.A. and B.Sc. is 'actuarial science'. The five papers in the subject are designed to cover a course of studies comparable to that of the intermediate examination of the Institute of Actuaries, London, with the omission of economic background to finance and investment. Only those who have studied mathematics and statistics at the higher secondary level can take up this subject.

While there is a compulsory paper in business law for commerce students, they can also opt for a five-paper course in law to study laws relating to public control of business, socio-economic laws, labour laws, taxation law and company and cooperative laws. Commerce graduates are thus poised to start well on a legal career after a degree in law.

The introduction of law both in the commerce and arts faculties is another attempt to make the degree courses inter-disciplinary and profession-oriented.

Although the syllabi for some of the subjects to be studied in the third year B.Sc. have not been drawn up, there are many new fields thrown open to the students. Science communication (journalism, radio and television), food production, energy utilisation, marine science, computer science, computer programming, waste recycling, environmental science, agrochemicals, fishery biology and sample survey techniques are some of them.

Two unique subjects meant for science students for their second year study are elements of social and economic life in India and history of civilization and the history, methodology and philosophy of science including a study of ancient and modern Indian scientific development. These two compulsory subjects will save the science student from being blind to the values of life and alien to the benefits of liberal thought and social consciousness.

Besides, a science student can also opt for any of the non-science subjects—psychology, geography, economics, actuarial science or rural development. But what marks out the science course is its integrated approach towards the study of life sciences. After five years from now botany and zoology will not be taught as separate subjects but under a common head, "life sciences." This integrated subject is offered for the first year students' option for the current session. In the science faculty, the university proposes to introduce the unit system and will examine the possibility of introduction of semester system. The syllabi are drawn up accordingly.

In drawing up syllabi for language courses, especially in English, for B.A., the university has shown greater originality and imagination. The compulsory study of English by B.A. students will now involve acquiring communication skills. One paper is totally designed to help the student acquire writing and speaking ability and help him in reading and listening comprehension. Included in the syllabus are recognition of different styles, deduction of meaning from truncated passages, telegraphese and newspaper headlines, interpretation of materials like railway timetables, application form questionnaire, comprehension of the tone of different passages, the writer's point of view, learning the word and sentence stress, intonation, note-taking from lectures and note-making from books, factual, persuasive, informal, official, semi-official, and personal writings, speaking in different capacities, making inquiries at counters or over telephones, interviews, conversation and use of various reference materials. Besides these communication and reference skills, a student is also made to acquire some literary sensibility through a study of three texts of prose, poetry and drama. While studying English as a special course, the student has to delve deep into the major ideas and events which led to the formation of the intellectual climate of the literary age. The university has now adopted an age-wise study of English literature giving up its past method of genre-wise study. New options are also offered to students of English literature: linguistics, aesthetics, methodology in literary appreciation, comparative literature or Indian writing in English.

Among various proposals now before the academic council are a one-year diploma course in the teaching of English, a short-term course in conversational English, a course in remedial English, a course in speed-reading, a course in elementary English for adults, and a course in creative writing in English. Diploma courses in Marathi also have been suggested for the approval of the council.

Another measure by the university which has been warmly welcomed, is its offer to those who have not studied Sanskrit earlier, of a course in Sanskrit as a fresh language like Russian, Japanese or Chinese at the B.A. level.

A compulsory paper in Sanskrit will give these freshers a knowledge of grammar taught as it arises from the text, an acquaintance with idioms and short sentences, and an understanding of the fourth act of Bhasa's classical play, "Swapnavasavadatta," and some modern writings.

In designing other courses in Sanskrit, there is a definite effort to make the study of the subject multi-faceted and useful in various ways. The five paper-course which can be taken up by both the freshers and those who have some groundwork in the language, is not totally literature-oriented. The course provides for a study of drama, poetry, poetics, philosophy, ancient polity and culture and the history of classical literature, while the eight-paper course, includes, besides the topics under the five papers, a study of vedic literature, vyakarana and composition and epics and Geeta.

Under the revised scheme and syllabus of Ancient Indian culture, which has been a popular course of Bombay University, India's cultural, social, political and economic history and the religions, art, architecture and literature of the ancient age are taught.

Farm panel to assess varsities programmes

Dr. M.S. Swaminathan, Director-General of the Indian Council of Agricultural Research said in Madras recently that the farm universities lacked proper facilities for learning by doing, which was necessary to strengthen the agricultural programmes in the country. A committee headed by Dr. M.S. Randhawa will review the programmes of agricultural universities in order to turn out graduates who would be capable of working with their own hands. The other aspects that would be enquired by this committee was how far science education could be made useful for rural development. It would also analyse how to enlist industrial organisation support for such programmes. He suggested that the village adoption schemes could better be called "task adoption schemes". Health and agriculture should form the core of these projects so that each agency in the project area could adopt a particular task to be accomplished. This would go a long way in appraising the quantitative and qualitative achievement of each task.

Dr. Swaminathan suggested compilation of rural balance sheet of the assets and liabilities of each village—an-integrated resource inventroy—and a malady remedy analysis to identify the specific constraints affecting the life and the earning capacity of the people. A programme of field visits and discussion with participant groups would also go a long way in effectively implementing the action plan. Dr. Swaminathan suggested that a principal coordinating officer assisted by people's committees and representatives of the various agencies that have adopted the different tasks could take up the coordination and monitoring of the programme implementation and its impact. A rural service corps consisting of young professionals who volunteer to work in the field of rural development for two or three years could be organised by universities and industrial organisations to "initiate the process of marrying brawn and brain in promoting the scientific utilisation of the available resources of each area." He said that there should be permanent training centre for imparting skills in the various fields based on the principle of learning by doing, mobile training and demonstration unit to reach out to interior and remote rural areas, a rural service society taking care of credit facilities and distribution of farm inputs as well as custom hiring of equipment and a warehousing and marketing component to ensure the participants a legitimate share of the profit. An agro-meteorological centre, a forest nursery and a developmental school would prove useful components to such a centre. In monitoring such programmes their progress should be measured in terms of actual additional income and the man-days of employment accrued to the participant groups and not in terms of physical production targets alone.

Coimbatore and Tiruchi to have legal study centres

Two legal study centres are proposed to be set up at Tiruchirapalli and Coimbatore. The Madras University is also considering the transfer of two law colleges at Madras and Madurai from the State Government to the university. Preliminary discussions have already taken place between the government and university authorities.

The University of Madras also convened recently a conference to discuss the various recommendations of the Law Commission appointed under the chairmanship of Mr. G. Swaminathan. It was strongly felt that there should be no increase in the present intake of Madras Law College but the strength of Law College at Pondicherry should be raised from 60 to 120. The university would however subsequently reduce the strength at these two colleges after the other education centres for legal studies have been developed at Coimbatore and Tiruchirapalli.

The conference also emphasised that the objective of legal education should be to promote knowledge and skill in the legal sceince in relation to specific social and human situations. It was of the view that the knowledge of law and skills required competence in English and for performing in the legal area in the States, knowledge of regional languages was also essential. It appreciated the recommendations of the Bar Council and the University Grants Commission in regard to admission of students and appointment of part-time teaching staff. The need for organising continuous refresher courses and training programmes for the staff and law colleges was also recognised.

Dr. Adiseshiah said that during the past two years the process of reform and restructuring in all the faculties of the university, other than the law faculty, have been completed. This conference was convened especially to advise the university and the syndicate as to how the phased programme of reform of legal education in the university should be carried out in the light of the recommendations of the Law Commission and bearing in mind the overall reforms suggested by the University Grants Commission. He suggested that the question whether legal education should be under the university or the government be left as it is till they were able to find a satisfactory solution in consultation with the government.

Andhra organises commerce workshop

A three-day regional workshop in commerce was organised at Andhra University. The focus of discussion was on the goal and strategies of commerce education in the country at the university level. It was generally felt that the commerce education should be linked up with the socio-economic needs of the country and the studies in commerce should be made more relevant to the needs of the society. Prof. M.V. Mathur, Director of the National Institute of Educational Planning and Administration said that the time had come when commerce education in the country had to be planned after looking at the direction and success achieved so far as there was an allegation that it was "neither liberal nor professional". He wanted the participants of the seminar to examine what should be the specific responsibility of commerce education at the undergraduate level.

Prof. M.R. Apparow. Vice-Chancellor of Andhra University said that his university would soon establish an advanced centre for studies in commerce. Prof. K.V. Sivayya, Director of the workshop and Head of Commerce Department of the University suggested exploring all possibilities to integrate work experience as well as national service scheme with curricula. He wanted that this aspect should be looked into properly when subjects for modernisation of the syllabi were considered.

Priority for faculty improvement

The Directorate of Collegiate Education, Tamil Nadu, is giving top priority to the faculty improvement pragramme initiated by the University Grants Commission. Large number of teachers of aided and government colleges have approached the Directorate for their placement in different state universities. Most of the universities have already finalised their selections for this programme and teachers have been asked to join the respective departments as early as possible, with the prior permission of the Directorate.

The scheme of faculty improvement programme envisages the sponsoring of the teachers concerned by the management in the case of aided colleges. The salary of the teachers during their deputation to the university under this programme is to be paid in full by the management and would be assessable for necessary financial grant by the Directorate of Collegiate Education. The programme will raise the standards of education at the college level in coming years.

Garhwal's achievements

The Hill University of Garhwal has made considerable progress in its academic affairs. Several measures have been taken to improve the academic standards and to promote researches in the various disciplines of Science and Humanities. A research project to study the attitudinal problems in Botany and Physics has been launched. The Technology and Science Department of Govt. of India has sanctioned a project costing Rs. four lakhs for research on high altitude plants dynamic and changes in crop patterns. A high altitude station has been set up on Tungnath at a height of 12000 ft. A multi-disciplinary approach is being adopted for the settlement patterns under the auspices of the Institute of Himalayan Studies.

The recent excavation carried out by the Department of Archacology at Ranikhet, across the Alaknanda, has thrown a new light on the entire history of Garhwal. The new historical findings have taken the history of Garhwal back to 6th century B.C. Researches in geography, tourism and pilgrimage are being conducted by the institute sponsored by the University Grants Commission. The cultural survey of the Badri Mandal has been made recently. A centre of folk culture would be established by the university.

Dilemma of Karnataka engineering students

The Karnataka Government had set up a committee under the chairmanship of Dr. K.A.V. Pandalai, Director, IIT, Madras, in January this year to examine the existing facilities available in the engineering colleges of the State. The committee was also to determine the intake disciplinewise taking into consideration the requirement of the engineering profession; to suggest measures for the improvement of existing courses run by the colleges and assess the financial and administrative requirements for the purpose. The ten-member intake committee was asked to report to the State Government within a period of three months. For want of sufficient time the committee visited only few colleges and fixed the intake of various colleges disciplinewise without making an in-depth study of the problem and the State's requiremement of engineering personnel. The intake of fifteen engineering colleges of the State for 1977-78 has been reduced from the last year's 3,000 to 2,581.

The State PUC results have been delayed and are yet to be announced. Meanwhile the candidates from other States where the PUC results were announced much earlier were said to have secured the management quota seats of private engineering colleges by paying the capitation fee of Rs. 10,000 and Rs. 12,000 as fixed by the Government for unaided and aided engineering colleges respectively. This has resulted in big rush for the Karnataka candidates seeking admission. Many of them are likely to be deprived of the opportunity of getting admissions for no fault of theirs. The problem of engineering admissions has become all the more difficult. Unless the Government decides to defer the implementation of the recommendations of the intake committee and restore the intake for 1977-78 to last year's level, the situation is likely to deteriorate further.

Karnataka scraps PG medical courses

The Karnataka University has decided to discontinue its postgraduate medical courses from this academic year. Dr. R.C. Hiremath, Vice-Chancellor, informed the Principals of the affiliated colleges of the university when they met him recently. He said that the State Health Minister had suggested a common selection board for selecting students to the postgraduate medical courses in the three universities of the State. But the university opposed the move on the ground that it was its prerogative to manage the courses including its admissions. The university had been running postgraduate medical courses for the last twelve years at the Karnataka Medical College, a government college at Hubli. As many as sixteen diploma and degree courses were offered and more than 100 students were admitted every year. University's postgraduate programme was approved by the Indian Medical Council and had gone on satisfactory. The university was planning to establish a medical research centre to further improve the standards of various medical courses.

The existing university Act also had no provision to delegate powers of running a postgraduate course to any institution including the Government and the university alone has the authority to run them. The decision of the Government to take over the courses is therefore surprising. It was rather unfortunate that no detailed discussion took place between the university and the State authorities before the final decision was taken. The Chancellor, Shri Uma Shankar Dikshit has been acquainted with the situation. The university however has handed over all the papers to the Government and requested the State Government to manage the postgraduate courses themselves in case they wanted to have centralised admissions. But the Government would have to seek the affiliation from the university afresh.

Bihar Board suggests revision of syllabi

The Bihar State Inter-University Board had constituted several sub-committees to revise the courses of study of universities in the faculties of education, medicine, law and commerce and make them up-to-date. The first meeting of the sub-committee on education was held under the chairmanship of Dr. S.P. Sinha, Vice-Chairman of the Inter-University Board. He stressed the need for revision of syllabi of various subjects in the universities of the State. During recent years the practices of education have undergone a radical change. He advised the members of the committee to prepare a uniform syllabus for the B.Ed and M.Ed examinations which must reflect the national thinking on teacher education.

Dr. Damodar Thakur, Director, Higher Education and Mrs. Shakuntala Sinha, Director of Education, also attended the meeting. The members of the subcommittees on law, medicine and commerce also met under the chairmanship of Mr. K.B.N. Singh, Chief Justice, Patna High Court, Dr. B. Mukhopadhyaya and Dr. N.L. Nanda, Head of the Department of Commerce, Patna University, respectively and discussed ways and means to make the syllabi uniform and up-to-date.

Visiting American teachers at SNDT

The SNDT University in collaboration with the United States Educational Foundation in India, organised a training programme in Asian studies for twentyfour teachers from New York. Dr. (Mrs) Madhuri Shah, Vice-Chancellor of the university during the inauguration of the course stressed the importance of such proprogrammes and said that they helped among other things a fusion of culture of the East and the West. Dr. Donald Johnson, Programme Coordinator of the group also emphasised the value of such visits and commented on the similarities in the cultures of India and America. He said that the number of schools in the USA which had departments of Asian Studies are on increase. The group which consists mostly of teachers of Asian Studies would collect detailed infotmation during the fifty-day training and will submit theses on India based on this data subsequently.

Inter-University transfers

Dr. V. Narayan Karan Reddy, President of the Osmania University Teachers Association has opposed the proposed move of the government to transfer the university professors, readers and lecturers from one university to another. He said that this arrangement will create confusion in the educational administration. However, the exchange of teachers for a short period, to begin with, in the three universities of Andhra Pradesh may generate better inter-university relations. The Government has mooted this idea to remove the static attitude in the academic field as the inter-university transfers would benefit the students of other universities to gain from the teachings of the experienced and renowned teachers. A conference of State Vice-Chancellors would be shortly convened by the Education Minister to discuss the matter further.

Panjab to admit students under the new pattern

The Syndicate of Panjab University has decided that the students who have passed the 10th class examination conducted by the Central Board of Secondary Education, New Delhi, under the new pattern of education would be allowed to join the pre-university course in the colleges affiliated to the university. The same facilities would also be available to students of 10th class under the new pattern course from other parts of the country.

Regarding admission to B.Ed colleges the Government of Punjab will have the powers to nominate 5% candidates to each of the colleges of education. These additional seats would however be over and above the sanctioned strength of the colleges. The Vice-Chancellor has also been authorised to nominate 2% of the seats in addition to the sanctioned strength in each non-government college of education from deserving hardship cases.

New PG courses in Andhra medical colleges

The Andhra Pradesh Government is considering a proposal to introduce postgraduate courses in neurology, nephrology, metabolic disorders, gastroenteritis and communicable diseases at the medical colleges of Tirupati, Guntur and Kurnool. The university authorities have already been consulted in this connection and their recognition and collaboration would be available for these new courses. The Government is providing a sum of Rs. thirteen lakhs for providing accommodation to about five hundred students of Gandhi Medical College. A hostel would be soon constructed for this purpose. At present some of the students of the college have to stay out and only boarding provisions could be made by the university for some of them. With the construction of the new hostel this problem would be eased to some extent.

Rush for NIS courses

There has been a great rush this year to get entry to coaching courses in various sports diciplines at the Netaji Subhash National Institute of Sports, Patiala. This year graduates with inter-university participation in sports were given preference. Non-graduates having requisite experience of participation in the national level sports meets were also considered. More than one thousand applications were received for admission to different courses. Of them 650 were called for interview. Ultimately only two hundred were admitted. Athletics, basketball and volleybal are more in demand. But the maximum trainees were admitted to athletics course followed by basketball, volleyball and hockey. At the Bangalore centre of the institute more than 100 trainees were admitted during the year.

Rohtak named after Swami Dayanand

The Haryana Vidhan Sabha has passed a Bill to rename the Rohtak University as Maharshi Dayanand University. The Assembly has already passed the Bill recently to rename the B.N Chakravarty University as Kurukshetra University. The Bill has replaced the Ordinance issued on April 7 last in response to the sentiments of the people of Haryana.

Education Convention at Calcutta University

(From our special correspondent)

Chief Minister of West Bengal, Mr. Jyoti Basu, called for a joint endeavour of students, teachers and guardians to 'restore the academic sanctity' of West Bengal, in an education convention organised jointly by the Students' Federation of India, the Progressive Students' Union, and the All India Students' Bloc at Calcutta University.

Mr. Basu explained that the students were not solely responsible for the "academic anarchy".

Mr Sambhu Ghosh, Minister for Higher Education said, that students' grievances over question papers could be resolved by setting up a "Question bank". Mr. Partha De, Minister for primary and secondary education agreed that the various problems arose from the inherent contradictions' of the present education system. Dr. Sushil Mukherjee, Vice Chancellor of the Calcutta University, who presided, expressed his hopes of a perfect co-operation between the government and the University, which was essential, in curbing the various irregularities. Students' organisations promised their whole hearted support for this cause, and in a resolution urged all academic quarters to help stop malpractices in this field.

The subject, that was uppermost during the discussion, was the recent disturbances during examinations. The postgraduate examinations which were held twice could not be held peacefully on the first day again. Some M.B.B.S. exams had to be cancelled for the same reasons.

The VC of Calcutta University after consultation with the Chief Minister and Chief Secretary Mr. B.R. Gupta, stated that an adequate number of policemen will be posted outside examination centres only to assist invigilators and university authorities, when their help will be sought for. This, he said, was a precaution to maintain "a peaceful atmosphere." The invigilators would search the examinees in the presence of the police, if he thought it necessary. However he made it clear that in no case would the police resort to "violence."

Mr. Sambhu Ghosh, made it plain that the Left Front Govt. would not tolerate any political interference in the running of universities. He referred to the case of Rabindra Bharati University where five students had been arrested for allegedly holding unlawful assembly and obstructing willing candidates from appearing for their exams.

Mr. Basu, took particular exception to medical students. He said that a section of the students cannot be allowed to hold the entire educational system, indeed the whole society, to ransom. Indeed some honest students sought 'protection' in the examination halls.

Students of all five medical colleges in West Bengal, in a memorandum submitted to the VC, expressed concern over the recent incidents, that led to the cancellation of the final M.B.B.S. examinations. They suggested constructive measures to help stop cheating in exam halls. They opted for short 'objective type of questions with alternatives in place of long essay type questions, conforming to the syllabus suggested by the Medical Council. The essay type questions have been discontinued in many Universities in India but 'tension' between the Council's President and the Dean of the Faculty of Medicine has impeded implementation of this step in West Bengal. They demanded such question papers in all papers in Surgery, Medicine and Gynaecology. The syndicate has agreed to set such papers. Secondly, they demanded that same set of examiners be appointed for both theoretical and practical examinations, to avoid becoming victims of 'estranged relations' between professors and paper setters of two Medical Colleges.

The Indian Medical Association (W. B. branch) while condemning malpractices by students have much to say to the authorities. They demand that a high power Committee be set up to go into the 'root causes of such disturbances. According to Dr. Tarun Banerjee, Head of the Dept. of Gynaecology and Obstetrics, Calcutta National Medical College, medical education should be managed by a separate directorate of the State Govt. The Director should have full independence and be answerable only to the Health Minister.

Mr. Jyoti Basu promised to look into the matter and discuss it with Health Minister. "The problem has to be dealt with in its entirety", he concluded.

Workload norms for varsity teachers

The Syndicate of Madras University has prescribed workload norms for all teachers including the demonstrators and tutors in affiliated colleges. These norms will be taken into consideration while assessing grant-in-aid by the State Government. Dr. Malcolm Adiseshiah, Vice-Chancellor of the University said that the university has welcomed the decision of the State Government for revising the pattern of grant-in-aid and was happy that the "approved staff" would be the staff apappointed according to the university norms.

He also informed that a sum of Rs. seven lakhs was recently sanctioned by the University Grants Commission to ten colleges for development of the postgraduate and undergraduate facilities, The university also approved the new courses in MBA in 'Urban Planning and Economics' and also in 'Urban Transportation System' in relation to the Madras Metropolitan Development Authority. Master's course in Library Science was also approved. A faculty of homoeopathy would soon be established. A committee has been constituted to suggest the details of the academic programme.

The open university programme of Madurai University has become popular in Madras and about fortytwo local study centres have been opened by Madurai University authorities. The University of Madras is extending all cooperation in the implementation of this programme.

Panel to study drug abuse

The Union Government has set up a national committee to study the problems of drug abuse in the country particularly among the youth in the university campuses. The committee will make an analytical assessment of the problem and suggest remedial measures. The Department of Social Welfare has sanctioned seven research projects to obtain empirical data on the extent of drug abuse among the college and university students in the country. The findings of these research studies will enable the government to exaimine the problem in its proper perspective and initiate remedial measures.

Annamalai to honour PM

The Prime Minister, Mr. Morarji Desai, has consented to inaugurate the Golden Jubilee elebrations of the Annamalai University early next year. Dr. S. Chandrasekhar, Vice-Chancellor of the University informed that the university would hold a special convocation during the Prime Minister's visit to confer on him an honorary doctorate.

Teachers demand effective representation in Senate

The Punjabi University Teachers Association has demanded restoration of status of the Senate as the supreme executive of the university. During the period of emergency the Senate was converted into a deliberative body. The Teachers Association has also demanded the democratisation of the Senate and other bodies of the university for effective representation for the faculty. The statement of Dr. P.C. Chunder, Education Minister assuring the resotration of democratic functioning of the universities which had been curtailed during emergency was widely welcomed by the faculty.

Aligarh act likely to be amended

Dr. P.C. Chunder, Union Education Minister while speaking in the Lok Sabha on his Ministry's demands for budgetary grants, accepted in principle the demand of the minority community for changes in Aligarh Muslim University Act to restore the democratic elements in the administration of the university. He further informed that he was having discussions with the Vice-Chancellors and other representatives of the minority community.

Students demand union at Kurukshetra

The Akhil Bhartiya Vidyarathi Parishad unit of Haryana has demanded the establishment of a students union at the Kurukshetra University. A deputation of the Parishad met the Vice-Chancellor and emphasised the urgent need of a duly elected union so that the students may be familiar with the democratic way of life.

Students oppose LLM full-time course

The students have protested to the Maharashtra Government against the decision of Bombay University to make its LLM course full-time. They feel that this decision of the university will come in the way of thousands of employed persons as well as practising law students who would be deprived of higher education in law. A deputation of city law students led by the Secretary of the Akhil Bhartiya Vidyarathi Parishad submitted a memorandum to the State Education Minister, Mrs. Pratibha Patil.

Grants for educational centre

The University Grants Commission has sanctioned a grant of Rs. 11 lakhs to the M.S. University of Baroda for its centre of advanced studies in education and for conducting research in education during the next four years. Dr. B.M. Buch, Head of the Centre, made this announcement in Baroda recently.

Personal

1. Dr. Jagdish Narayan has been appointed Vice-Chancellor of Roorkee University.
2. Dr. A.K. Sen has taken over as Vice- Chancellor of Indira Kala Sangit Vishwavidyalaya.
3. Dr. V. K. Sukumaran Nayar has been appointed Vice-Chanceller of University of Kerala.
4. Dr. B. D. Nag Chaudhuri, Vice-Chancellor of Jawaharlal Nehru University has been re-elected to the International Board of Governors of the East-West Centre for a three-year term.
5. Thiru M. Gowri Shankar has been appointed Registrar of Annamalai University.

Reconsideration of Sen's recommendations

(*Continued from page 379*)

progrommes. The Committee was of the definite view that any kind of coercion used or any decisions taken under duress should be regarded as invalid. In such a situation it was incumbent on the Government to take steps to prevent such incidents from happening. In this connection the Committee recalled the resolution passed by the Association of Indian Universities in 1966 :

> "That students should not have recourse to violence; and that while enjoining on the police to avoid excessive force, Governments deal firmly with breaches of law and order whenever and wherever they take place."

The Committe also had a meeting with Professor P.C. Chunder, the Union Minister for Education, for some time and discussed issues of mutual interest in a very cordial atmosphere. In the course of his remarks, the Minister observed that he believed in the autonomy of the universities which was also to be coupled with their accountability to the society at large. For his part he would like to see that the democratic functioning of the universities is restored everywhere. In order to do so, he said, he would consult all those connected with the educational process, students, teachers and administrators.

Dr. Shiv Mangal Singh 'Suman', President of the Association, presided over the meeting.☐

THESES OF THE MONTH

A list of Doctoral Theses Accepted by Indian Universities

PHYSICAL SCIENCES

Mathematics

1. Bastia, Surendranath. Some problems on axisymemetric flow and heat transfer in incompressible fluids. Utkal University.
2. Bhola, H.L. The theory of best approximation. Jiwaji University.
3. Goel, Sri Narayan. A study in error correcting codes through Lee-distance. Meerut University.
4. Mahanti, Nirmal Chandra. Waves in non-homogenous fluids. Visva-Bharati.
5. Narsimha Rao, V.V.L. Self reciprocal function. Osmania University.
6. Praduman Kumar. On certain problems in the theory of queues in series. Meerut University.
7. Sanyal, Jagabandhu. On infinitesimal transformations of differentiable manifields. University of Calcutta.
8. Sinha, Tarini Prasad. Numbers: Real and ultra-real. Bhagalpur University.
9. Thakur Prasad Singh. Absolute Riesz summability of fourier series and allied series. Awadhesh Pratap Singh University.

Statistics

1. Gupta, Jai Prakash. Some contributions to the theory of sampling for correlation coefficient. Meerut University.
2. Patel, I.D. Statistical inference concerning parameters involved in some distributions. Gujarat University.
3. Saxena, Prem Chandra. Dual and allied problems in mathematical programming. University of Delhi.
4. Vishnu Dayal. Some aspects of discrete order statistics. Meerut University.

Physics

1. Agrawal, Mahendra Kumar. Lattice dynamics of heavier alkali halides of rocksalt structure Meerut University.
2. Ashok Kumar. Spectroscopic studies in some 5-d transition metal complexes. Meerut University.
3. Bujarbarua, S. Parametric interaction of waves in magnetized plasma. Gujarat University.
4. Chaturvedi, P.K. Linear and nonlinear theory of ionospheric irregularities. Gujarat University.
5. Chhipa, G.M Absorption of radio waves in the lower ionosphere. Gujarat University.
6. Das, Paramita. Studies on the transport properties of thin solid films. University of Calcutta.
7. Datta, Sucheta. Studies on the transport and equilibrium properties of gases. University of Calcutta.
8. Eswara Prasad, Somayajula Rama Jogi. Study of the electrical behaviour of ferroelectric triglycine sulphate in the process of developing a capacitive transducer. Andhra University.
9. Jain, Nirmal Kumar. Ionization of atoms, molecules and ions by electron impact. Meerut University.
10. Jain, R.K. Instabilities in ionospheric plasma. Gujarat University.
11. Karmakar, Binoy Bhusan. Application of Volterra type rate equations to some ecological problems. Visva Bharati.
12. Kulkarni, Vasant Wamanrao. Studies in luminescence. Marathwada University.
13. Mahesh Chandra. Contributions to the study and applications of transistor multivibrator operation. Meerut University.
14. Mohana, S. Electron optical studies of vaccum deposited thin films of some metals and semiconductors. Sardar Patel University.
15. Patil, Prabhakar Baliram. Methods of mathematical physics and their applications. Marathwada University.
16. Patrawale, Prabhakar Nagnath[illegible]. Nuclear studies. Marathwada University.
17. S. Sampath. A study of the equatorial electrojet. Gujarat University.
18. Ramnandan Singh. Phonon frequencies and transport property of metals. Bhagalpur University.
19. Santhakumari, B. Studies in molecular mechanics using spectroscopic data, exact force field and bond in homogeneity. University of Cochin.
20. Sehra, P.S. Atmospheric structure exploration over antarctica and internhemispheric comparsion. Gujarat University.
21. Sinha, H.S.S. Studies in equatorial aeronomy. Gujarat University.

Chemistry

1. Acharya H.K. Studies on polymeric materials with ion-exchange properties. Saurashtra University.
2. Bansal, Rashmi Rani. Investigations in some chelates of less common transition elements. Meerut University.
3. Bhagawan, Gawali Subhash. Extraction and separation studies of some metals. Shivaji University.
4. Chandra Prakash. A study of 3,4-dioxygenated coumarins and synthesis of some naturally occurring coumarins. University of Delhi.
5. Das Mazumdar, Anjani Kumar. Studies on some heterocyclic compounds. Bhagalpur University.
6. Desai, J.S. Investigations on some analytical reagents. Gujarat University.
7. Dhanani M.L. Studies on optical activity and chromatography. Saurashtra University.
8. Duorah, Kalpana. Radiative alpha-capturing reactions at elevated stellar temperature: Raction rates, nucleosynthesis and energy generation. University of Gauhati.
9. Gajender Pal Singh. Studies on rheological behaviour of homopolymers and polyblends in concentrated solutions. Kanpur University.
10. Gopinath Nair, M R. Physico-chemical investigations on the reaction of aromatic amines and formaldehyde in acid medium. University of Kerala.
11. Govindan, S.V. Investigations on natural products. I.I.T., Bombay.
12. Guha, Dipak, Studies on the electrical and catalytic properties of vanadium pentoxide and vanadium bronzes. I.I.T., Bombay.
13. Gupta, Ramesh Chander. Chemical studies on biotransformation of isoniazid and related pyridine compounds. Kanpur University.
14. Indra Dev. Studies on the chemical composition of soap nut (Sapindus Mukorossi) seed kernel and physicochemical studies of constituent portions. Meerut University.
15. Jain, Mukesh Chandra. Evaluation of magnetic moment and ligand field parameters in transition metal complexes derived from 4-benzylamidothio-semicarbazide and its thiosemicarbazone. Meerut University.
16. Kaddargi, Shivassharan Siddappa. Studies in the indole field. Karnatak University.
17. Koshel, K.C. Corrosion of 3-5 aluminium and its inhibition. Gujarat University.
18. Kul Bhushan Kumar. Studies on solublizing action and physical properties of magnesium soaps. Meerut University.
19. Mandhar, Mangla Devi. Chemical investigation of medicinal plants. Kanpur University.
20. Marutatmaja Rao, P.L.K. Synthesis, physicochemical studies and physiological activity of isoxazole derivatives and their intermediates. Osmania University.
21. Nanavaty, N.T. Studies on optical activity in some reactions. Gujarat University.
22. Nigam, Adarsh Kumar. Physico-chemical studies on the complexometric behaviour of 1-amino 3-thioisoindoline with transition metal ions. Kanpur University.

23. Nigam, Ashok Kumar R. Some reactions of 1-phenylethanol phosphate esters. Jiwaji University.

24 Pachauri, Om Prakash. Physico.chemical studies on mixed ligand complexes of Th (IV) ion. Meerut University

25. Pardeshi, Leela Gulabchand. Studies in properties of compounds of some fatty acids. Marathwada University.

26. Pardhy. R S. Investigations in terpenoids. I.I.T., Bombay.

27. Parghi. J.V. Studies in new analytical reagents. Gujarat University.

28. Parikh, S.P. Studies in basic amides and related compounds. Gujarat University.

29. Patel, G.A. Studies in inhibition of corrosion of aluminium. Gujarat University.

30. Patel, Ramanbhai Narambhai. Studies in polycondensation. Sardar Patel University.

31. Patra, Panchanan. Annealing of chemical radiation damage in isomeric complexes. Utkal University.

32. Raj Pal Singh. Search for new biologically active organofluorine compounds. Meerut University.

33. Rana, Hari Singh. Physico-chemical studies on biligand complexes of some of the lanthanons. Meerut University.

34. Rastogi, Subhash Chandra. Physico-chemical and spectral properties of some heavy metal ion complexes with N/O containing ligands derived from benzoforan. Meerut University.

35. Sanduja, Sudershan Kumar. Mass spectrometric and synthetic studies of 2'-substituted isoflavones and 2-arylbenzofurans. University of Delhi.

36. Sangal, Sudhir Kumar. Stereochemical features of some metal complexes of pyridine derivatives. Meerut University.

37. Satya Vir. Physico-chemical studies on the metal complexes of phenyl-hydrazines. Meerut University.

38. Saxena, Sashibala. Organic azides as reagents for identification of amino-acids. Jiwaji University.

39. Shah, Tarulata Bhupendra. Kinetics of nucleophilic substitution reactions of—Napthacyl bromide. Sardar Patel University.

40. Shinde, Chandrakant P. Kinetic study of the reactions of some esters of tri-basic acid. Jiwaji University.

41. Sriramam, Kambhampati. Studies on the behaviour of some redox systems in titrimetric reactions. Andhra University.

42. Sunita. Synthetic studies in coumarins. University. of Delhi.

43. Thakur, S.B. Synthesis on prostaglandin-like compounds. I.I.T., Bombay.

44. Trivedi, B.G. Synthesis of basic amides. Gujarat University.

45. Venkateswar Rao, K. Search for physiologically active compounds: Synthesis of 2-nitro-2'—hydroxyacetophenones and derived 2-oximinocoumaranones, 2-methyl—3-nitrochromones and 3-nitrochromones. Osmania University.

Earth Sciences

1. Lakshmi Nandan Bora. A study on water balance and drought climatology of Assam and the vicinity. Andhra University.

Engineering & Technology

1. Apte, Y.S. Optimal autostabilizer for a supersonic fighter aircraft. I.I.T., Bombay.

2. Ashirwad, Sureshchandra Bal. Determination of mass transfer characteristics of the porous cellulose acetate membranes, for 'reverse osmosis' separation with special reference to their evaluation. Nagpur University.

3. Barkar Hussain. Studies on stress-deformation and strength characteristic of large size rock fragments without and with fine cohesive soil. I.I.T., Bombay.

4. Katti, R.A. Analysis of kinetics of combustion reactions using linear system theory. I.I.T., Bombay.

5. Mohan, T. R. R. Sintering on zinc oxide. I.I.T., Bombay.

6. Patel, S.J. Studies in simulation and optimization. I.I,T., Bombay.

7. Sayann, K.S. Parameters affecting the performance of draft tube of a reaction water turbine. I.I.T., Bombay.

8. Saxena, Dinesh Narain. Study of residence time distribution in liquid semi-fluidised beds. Kanpur University.

9. Sheth, D.K. Studies in two phase flor: Effect of turbulence promoters and liquid viscosity in two component two-phase flor in a horizontal pipeline. I.I.T., Bombay.

10. Som Bhaskar. Some analytical studies on avalanche transit time diodes. University of Calcutta.

11. Sripathi, T. Flooding and mass transfer studies on the rotating perforated discontactor. Kakatiya University.

BIOLOGICAL SCIENCES

Biochemistry

1. Dasmahaptra, Bimalendu. Studies on mold dextranases. University of Calcutta.

2. Gopalakrishna Pillai, N. Biochemical Investigation on the cocount palm. University of Kerala.

3. Guha, Sujitkumar. Urea biosynthesis in human fetuses. University of Calcutta.

4. Patel, H.H. Studies on biochemical sciences: Aspects of some air borne fungi, and basidiomycetes of Bhavnagar. Saurashtra University.

5. Sukhdev Singh. Protein quality of pulses and vitamin A metabolism. Punjab Agricultural University, Ludhiana.

Botany

1. Balvinder Kumar. Effect of saline alkaline conditions on plant growth and metabolism. Haryana Agricultural University, Hissar.

2. Bhanja, Pradyot. Fluorescence microscopy in molecular cytology: An investigation on primary and acridine orange-induced secondary fluorescence of cells. University of Burdwan.

3. Buth, Mohd. Maqbool. Comparative anatomy in order urticalos with special reference to local genera. University of Kashmir.

4. Chattopadhyay, Narayan Chandra. Studies on certain aspects of the physiology of Fusarium moniliforme var. Subglutinans wr. et. rg. and the associate malformation in mango. University of Burdwan.

5. Chaudhuri, Asish Kumar. Investigations on some wood rotting fungi in relation to decay resistance of Pterocarpus marsupium Roxb. University of Calcutta.

6. Danaiah, Vallura. Studies on the cruciferae of India. Sardar Patel University

7. Diwedi, Gauri Shanker. Ecophysiological studies of Heliotropium ovaliforlium Forsk: A common ruderal species of low lying beds. Vikram University.

8. Fotedar, Rattan Lal. Structure and development of phloem in some ferns. Sardar Patel University.

9. Gangadhara, M. Epidermal structure and ontogeny of stomato in some dicotyledons. Sardar Patel University.

10. Gupta, Hardar Prasad. Studies on experimental condidosis with special reference to new potential anti-candidosis agents. Kanpur University.

11. Jain, H.K. Ecosystem analysis of grasslands near Rajkot. Saurashtra University.

12. Jain, Suresh Chandra. Foliar studies in polypodiaceae. University of Delhi.

13. Kuriachan, Philomena. Cytotaxonomic studies in solanaceae. University of Kerala.

14. Mehta, D.H. Some biophysical and biochemical aspects of growth and differentiation in glycine max and Hordum vulgare. Gujarat University.

15. Mehta, V.B. A study on carbohydrate metabolism in algae. Gujarat University.

16. Narhari Rao, B.V. Effect of physiological preconditionings on the growth and development of some crop plants. Sardar Patel University.

17. Patunkar. Bhanudas Wamanrao. Contribution to the botany of Marathwada-V: Taxonomic studies in the grasses of the region. Marathwada University.

18. Rajagopalan, Rita. Germination regulating mechanisms in seeds of some weeds. University of Calcutta.

19. Ram Pal Singh. Monograhic studies of litchi chinesis. Meerut University.

20. Shah, N.K. An approach to the problem of the role of phenolic substances in the growth of Amaramthus vididis L. seedlings. Gujarat University.

21. Sharma, Y.N. Studies on the comparative anatomy of certain taxa of the family gramineae. Jiwaji University.

22. **Sinha, M.P.** Studies on mushrooms of Orissa. Utkal University.

23. Tyagi, Anil Kumar. Metabolic studies on mycobacteria. University of Delhi.

Zoology

1. Bhagat, Banshi Prasad. Genetics of laboratory and natural populations of drosophila species. Bhagalpur University.
2. Goyal, Dharmendra Pratap. Studies on the morphology, histology, histochemistry and development of the carotid labyrinth in Rana Tigrina Daud. Meerut University.
3. Hajra, Ashis Kr. Influence of soil factors on the distribution of collembolan fauna in cultivated and uncultivated fields of West Bengal. University of Burdwan.
4. Jawale, Mohan Dagduji. Some aspects of biology and ecology of the Indian freshwater crab, Barytolphusa guerini. Marathwada University.
5. Koul, Tej Kumari. A study on the functional anatomy of the Kashmir bat, pipistrellus mimus with a survey of the bats of Kashmir. University of Kashmir.
6. Kshatriya, A.M. Studies on the structure and function of skeletal muscle under the influence of various physiological conditions. Gujarat University.
7. Sinha, Anil Kumar. Some aspects of reptilian endocrinology. Bhagalpur University.
8. Varma, Surendra. Studies on some gastro-intestinal nematodes of pig at Hissar. Meerut University

Agriculture

1. Durag Vijay Singh. Studies on the mycoflora of wheat seed. Kanpur University.
2. Ghoshdastidar, Subrata. Humic acids at the interfaces. University of Calcutta.
3. Manickam, T.S. Studies on laterite soils of Tamil Nadu (India). Tamil Nadu Agricultural University, Coimbatore.
4. Md. Giasuddin Ahmed. Epidemiological and physiological aspects of red-rot disease of sugarcane in Assam. University of Gauhati.
5. Mukhopadhyay, Debdas. Investigations on Macrophomina phaseoli (Maubl.) Ashby associated with stem rot of jute and its survival in presence of antagonistic organism in host rhizosphere. University of Burdwan.
6. Nagarajan, M. Studies on the physiology of heterosis in hybrid sorghum, Sorghum bicolar (L) Moench. Tamil Nadu Agricultural University, Coimbatore.
7. Narain Singh. Studies on the effect of plant growth regulators on fruit set berry development and fruit quality in certain varieties of grapevine, It is vinifera L. Kanpur University.
8. Raj Pal. Effect on varying levels of phosphorus, sulphur and plant density on yield and quality of different varieties of spreading type groundnut, Arachis hypogea in Meerut.
9. Ramalingam, R. Sethupathi. Induced mutagenesis in the genus, Capsicum L. Tamil Nadu Agricultural University, Coimbatore.
10. Ramanathan, K.M. Studies on dynamics of soil potassium. Tamil Nadu Agricultural University, Coimbatore.
11. Ram Chander. Salt tolerance studies in relation to vegetative growth yield and quality of tomato, Lycopersicon esculentum Mill. Haryana Agricultural University, Hissar.
12. Raval, H.N. Studies in infiltration rates for some Gujarat soils. Gujarat University.
13. Shrivastava, Birender Lal. Investigations on seed sterility in morus species Mulberry. Kanpur University.
14. Sihag, Ram Kumar. Regulation of nitrate reductase level in Pisum sativum. Jawaharlal Nehru University, Delhi.
15. Srivastava, Krishan Chander. Studies on the fungal degradation of cotton materials. Kanpur University.
16. Subrahmanyan, S. Studies on the effect of water management and graded nitrogen levels on growth, yield and uptake of nutrients in rice, Oryza sativa. Tamil Nadu Agricultural University, Coimbatore.
17. Yashvir Singh. Studies on inheritance of some quantitative characters in Chickpea, Cicer-arietium L. Haryana Agricultural University, Hissar.

Veterinary Science

1. Gopakumar, N. Pharmacological and biochemical effects of some sympathomimetic drugs in buffalo calves. Punjab Agricultural University, Ludhiana.
2. Patil, Nivrati Aba. Studies on developmental anomalies in chicks. Punjab Agricultural University, Ludhiana.
3. Rath, Bibhuti Bhushan. A critical analysis of an intensive cattle development project: Progress, problems and prospects. Haryana Agricultural University, Hissar.
4. Sharma, Sureshwar Nath. Retention of urine in bovines with special reference to uraemia and cystorrhaphy. Punjab Agricultural University, Ludhiana.

Additions to AIU Library

Association of Universities and Colleges of Canada, Ottawa. *Survey of programmes of cooperation established between Canadian Universities and foreign institutions.* Ottawa, Author, 1977. 145p.

Australian Vice-Chancellors' Committee, Canberra *Patents policy.* Canberra, Author, 1977. 24p.

———*Study leave.* Canberra, Author, 1977 39p.

———*Superannuation.* Canberra, Author, 1976.

———*Transfers between tertiary institutions.* Canberra, Author, 1976. 32p.

University publications. Canberra, Author, 1976. 46p.

Cassidy, Harold G. *Knowledge, experience and action: An essay on education.* New York, Teachers College Press. (c1969) xiii, 205p.

Eddy, Elizabeth M. *Becoming a teacher: The passage to professional status.* New York, Teachers College Press (c1969) 167p.

Fox, Seymour. *Freud and education.* Illinois, Thomas (c1975) xi, 256p.

Gandhi, Indira. *Education, individual and society: Selected addresses.* Delhi, Ministry of Education, 1977. viii, 127p.

German Adult Education Association. *Functial literacy in India.* Heerstrasse, Author, 1976. 48p.

Guttmann, Ludwig. *Sport for the physically handicapped.* Paris, Unesco, (c1976) 53p.

Horowitz, Irving L. and Freidland, William H. *Knowledge factory: Student power and academic politics in America.* Chicago, Aldine (c1970) viii, 354p.

India, Directorate of Nonformal Education. *Directory of voluntary organisations working in the field of adult education in India.* Delhi, Ministry of Education, 1975. xvi, 344p.

India, Ministry of Education *Educational developments in India: 1971-77.* Delhi, Author, 1977. vi, 72p.

Krishan Gopal, Comp. *Theses on Indian Sub-Continent 1877-1971: An annotated bibliography.* Delhi, Hindustan (c1977) xix, 462p.

Laska, John A. *Planning and educational development in India.* New York, Teachers College Press (c1968) xi, 129p.

McMurrin, Sterling M., ed. *On the meaning of the university.* Utah, University of Utah Press (c1976) 123p.

Naik, J.P. *Educational writings of R.V. Parulekar.* Bombay, Asia (c1957) xxxix, 268p.

Pieris, Ralph. *Asian development styles.* Delhi, Abhinav, 1977. x, 125p.

Satya Sundaram I. *Student unrest in India.* Machilipatnam, Author, 1976. 116p.

Satya Sundaram I *Teachers' status in India.* Machilipatnam, Author, 1976. 102p.

Seabury, Paul, ed. *Universities in the western world.* New Jersey, Free Press, 1975. 303p.

Stone, Lawrence, ed. *Schooling and society: Studies in the history of education.* London, Hopkins (c1976) xvii, 263p.

Yadav, M.S. and Govinda, R. *Educational evaluation: A package of auto-instructional material.* Ahmedabad, Sahitya Mudranalaya, 1977. xii, 312p.

CLASSIFIED ADVERTISEMENTS

UNIVERSITY OF BOMBAY

Applications are invited for the following posts in the University:

Post/s	Department
1. Professor of Marathi	Marathi
2. Reader in Sindhi	Sindhi
3. Reader	Applied Psychology
4. Two Readers (Temporary)	Mathematics (Centre of Advanced Study)
5. Reader in Industrial Economics or Public Finance (Temporary)	Economics (Centre of Advanced Study)
6. Lecturer in Chemical Engineering	Chemical Technology
7. Reader in Microbiology	—do—
8. Three Professors	Jamnalal Bajaj Institute of Management Studies
9. Five Readers	—do—
10. Four Lecturers	—do—

The grades of the posts are: Professor—Rs. 1100-50-1300-60-1600; Reader—Rs. 700-50-1250 and Lecturer —Rs. 400-40-800-50-950. These scales are likely to be revised as per U.G.C. recommendations.

All posts carry the benefits of Dearness Allowance and House Rent and Compensatory Local Allowances at the rates sanctioned by the Executive Council from time to time. The posts, except those at Serial Nos. 4 and 5, carry the benefits of University Provident Fund. A higher starting salary may be given to a person possessing high qualifications. The appointments to the posts, except those under items 4 and 5, will be on probation for two years in the first instance, but this probationary period may be waived by the Executive Council in special cases. Other things being equal preference will be given to candidates from backward classes. Posts of Lecturers are reserved for scheduled castes and scheduled tribes and will be filled up by appointment of such persons only as shall satisfy the requirements regarding qualifications, experience etc. laid down for the posts, provided however that if no candidates are available from the scheduled castes and scheduled tribes, the posts will be filled up by appointment of duly qualified persons from among other applicants.

The general requirements for the posts, except for the post in the Department of Chemical Technology and the Jamnalal Bajaj Institute of Management Studies, are as under. The requirements for the posts in the Departments of Chemical Technology and Jamnalal Bajaj Institute of Management Studies are as mentioned below against the serial numbers concerned.

Professors and Readers:

(a) A Doctor's degree or published work of an equally high standard; and

(b) consistently good academic record with 1st or high 2nd class (B+) Master's degree in relevant subject or an equivalent degree of a foreign University.

Plus those additional qualifications prescribed by the University by way of specialisation, experience etc.

Lecturers:

(a) A Doctor's degree or published work of an equally high standard; and

(b) consistently good academic record with 1st or high 2nd class (B+) Master's degree in a relevant subject or an equivalent degree of a foreign University.

The details regarding qualifications, teaching experience etc. prescribed for the posts are as under:

Applicants for the post/s at serial :

No. 1: must have specialisation in Marathi language and grammar. They must also have a wide background and general competence in the subject, experience of teaching post-graduate classes for at least 10 years and guiding and conducting research work, and must have done independent research work of recognized merit.

No. 2: must have a wide background and general competence in the field of Sindhi language and literature and experience of teaching degree classes.

No. 3: must have experience of teaching and guidance of research work at the post-graduate level for at least five years.

No. 4: must have three years' teaching experience at the post-graduate level or evidence of three years' post doctoral research of high quality.

No. 5: must have a high second class at post-graduate examination and a Ph.D. or equivalent research work. Published research work would be an additional qualification. They must be conversant with modern tools of analysis. The Reader will be required to teach students for the M.A. degree by papers and guide research students, and conduct research in the subject.

Posts in the Department of Chemical Technology

No. 6: must have a doctor's degree in Chemical Engineering with good academic record.

or

A good academic record with first or high second class at Master's degree or an equivalent degree in Chemical Engineering or at least one year's research or professional experience. Specialisation in the field of mass transfer and/or fluid mechanics will be desirable.

No. 7: must have a basic degree in Food or Pharmaceutical Technology with adequate Post-graduate research experience in Applied Microbiology, or have a doctorate in Microbiology with research experience in Microbial Metabolism, Industrial Microbiology, Food or Pharmaceutical Microbiology. Experience of teaching and guiding research or in Industry will be considered as an additional qualification. The Reader will work in the section of Food Technology under the Professor of Food Technology and the Director of the Department and will be required to teach, supervise and conduct research in his own subject.

Posts in the Jamnalal Bajaj Institute of Management Studies

No. 8:—Professors (3 posts)

must have—(i) A good Bachelor's degree in Engineering/Technology/ Mathematics / Statistics / Mathematical Economics, (ii) A good Post-graduate degree or Diploma in Management or Industrial Engineering with specialisation in any of the areas :

(a) Quantitative Marketing

(b) Productivity Management

(c) Management Audit,

and (iii) Five years' teaching experience as Reader or ten years' practical experience in the Industry.

Research Degree or published research work will be an additional qualification.

No. 9:—Readers (5 posts)

One for Data Processing:

must have :

(i) A good Bachelor's degree in Engineering / Technology / Mathematics/ Statistics/Mathematical Economics,

(ii) A good Post-graduate degree or Diploma in Management or Industrial Engineering with specialisation preferably in Computer Science, Information Systems or allied areas, and

(iii) Three years' Industrial/teaching experience in Systems Design and Computer Programming.

Two for Marketing:

must have :

(i) A good Bachelor's degree in Engineering / Technology/ Mathematics/ Statistics/Mathematical Economics,

(ii) A good Post-graduate Degree or Diploma in Management or Industrial Engineering with specialisation in Marketing, and

(iii) Three years' industrial/ teaching experience in the area of marketing.

One for Finance:

must have :

(i) A good Master's degree in Management with specialisation in Finance; OR A good Master's degree in any faculty and a Diploma in Managerial Accounting; *or*

A good Master's degree in any faculty and CA/AICWA

(ii) Three years' teaching/industrial experience.

One for Accounting:

must have :

(i) CA/AICWA with Post-graduate diploma in Management; OR Good Master's degree in any faculty and AICWA/CA

(ii) Three years' teaching/industrial experience.

Note: The requirement in regard to Post-graduate qualification may be waived only in cases of exceptional professional competence, for the posts of Professors and Readers.

No. **10**:—Lecturers (4 posts)

must have :

(i) A good Master's Degree in Management; OR

A good Bachelor's degree in Engineering/Technology/Mathematics/Statistics/Mathematical Economics, and a Post-graduate Diploma in Management or Industrial Engineering; OR

A good Bachelor's degree and CA/AICWA and a Post-graduate diploma in Management.

(ii) Some work or teaching experience desirable

Two copies of the application in the prescribed form, which can be had from the Registrar, should be submitted so as to reach the Registrar, University of Bombay, Bombay-32, on or before **10th August, 1977**.

Candidates called for interview will have to present themselves at their own expense.

Canvassing direct or indirect will be a disqualification.

K.S. KOLGE
Offg. REGISTRAR

UNIVERSITY OF JAMMU

NOTICE

Applications on the prescribed form are invited for the following posts so as to reach the Registrar on or before **August 8, 1977**.

1. Readers in the scale of Rs 1100-50-1300-75-1600 One each in :
   - (i) Education (Measurement)
   - (ii) Economics (Statistics or Mathematical Economics)
2. Lecturers in the scale of Rs. 700-40-900-EB-40-1100-50-1300 in the following subjects :
   - (i) Mathematics—One (Methematical Statistics)
   - (ii) Geology—One (Geohydrology)
   - (iii) History; three posts including one in leave arrangement. (One in Ancient History).
   - (iv) Sanskrit—Two (One in Indian Philosophy and other in Poetics/Grammar).
   - (v) Urdu—One.

For full details and prescribed application forms, please apply by sending a self addressed envelope of 25 cms x 10 cms. size bearing stamps worth Rs. 1.50 paisa along with a crossed postal order for Re. 1/- drawn in favour of the Registrar, University of Jammu, Canal Road, Jammu (Tawi)-180001, Jammu & Kashmir State, cashable at Jammu Post Office.

Sd/-
(O.P. SHARMA)
DEPUTY REGISTRAR (ADM.)

PANJAB UNIVERSITY (CHANDIGARH)

Advertisement No. 15/77

Applications are invited for the following posts so as to reach the Registrar, Panjab University, Chandigarh, by **9.8.77** along with postal orders for Rs 7.50 for the posts of Research Fellows/Research Scholars and Rs. 5/- for other posts.

Posts, Pay Scales and Qualifications

(A) **Instructor in Statistics-1 (Rs. 300-25-600)**

1. M.A./M.Sc. in Statistics of an Indian University or an equivalent qualification of a foreign University, with at least a high second division or grade B plus.
2. Two years experience of teaching and research, with specialisation in at least one of the following areas:-
   (i) Stochastic Processes (ii) Non-parametric inference

Desirable: Experience of teaching post-graduate classes in Statistics.

(B) **Research Assistants** (Rs. 300-25-600) Commerce & Business Management-1, Education-1, Sociology-2, Microbiology-1, Biochemistry-1, Biophysics-1.

Commerce & Business Management

First or high second class post-graduate degree in Commerce/Business Administration/Engineering (With specialisation in Industrial Engineering/managerial sciences) with uniform by good academic record and aptitude for research. Preference will be given to those who have some experience in industry or research institution.

Education

1. Consistently good academic record with at least high second class (B+) Master's degree in Education or an equivalent degree of foreign University recognised by the Panjab University;
2. Experience of teaching in a University or College will be preferred.

Sociology

A first or high second class Master's degree in Sociology or Statistics and experience of research.

Microbiology

First or high second class Master's degree in Microbiology. Experience in the area of Microbial Physiology.

Biochemistry

First class M.Sc. in the subject with brilliant academic record with at least 2-3 years research experience and sound knowledge of modern biochemical techniques.

Biophysics

Essential

At least second class M.Sc. in Biophysics or allied sciences.

Desirable

Good academic career and familiarity with ultramicrescopy and other EM selected methodology.

(C) **Teaching Assistants** (Rs. 300-25-600) Microbiology-2, Biochemistry-2, Physical Anthropology-1, Biophysics-2, Physics-4.

Microbiology

For Post No. 1

First or high second class Master's degree in Microbiology. Experience in the teaching of practical classes in the area of Agricultural and Food-Industrial Microbiology.

For Post No. 2

First or high second class Master's degree in Microbiology. Research experience in the area of tissue culture and virology.

Biochemistry

First class M.Sc. in the subject with brilliant academic record and adequate teaching experience. The candidate possessing Ph.D. degree would be preferred.

Physical Anthropology

A first or second class Master's degree in Physical Anthropology. Preference will be given to those candidates having teaching experience to their credit.

Biophysics

Essential

At least second class M.Sc. in Biophysics.

Desirable

2-3 years research experience as evidenced by publications of papers.

Physics

(i) M.Sc. in Physics with a high second class and distinguished academic record.

(ii) At least two years research experience.

(D) **Senior Research Fellows-2** (Rs. 600/- p.m. fixed each).

(Under U.G.C. Programme of Special Assistance to the Department of Botany in the fields of Periodology including Morphogenesis, and Mycology and Plant Pathology).

The candidate should be an M.Sc. First class with Ph.D. in the discipline concerned or with at least 3 years research experience.

Senior Research Fellows-3 (Rs. 600/- p.m. fixed each).

(Under UGC Special Assistance Programme to the Inorganic Section of the Chemistry Department).

M.Sc. first or with high second class in Inorganic Chemistry. The candidate should have Ph.D. degree or have submitted thesis for Ph.D. degree or have published research work in recognised journals. The applicants should not ordinarily be more than 40 years of age. These Fellowships are for the maximum period of 2 years.

(E) Research Fellow in Commerce & Business Management-1 (Rs. 500/- p.m. fixed).

First or high second class MBA or M.Com. or M.A. in Economics/Operational Research/Labour and Social Welfare/Social work with specialisation in Labour Relations and Personnel Management/Master's Degree in Industrial Management with uniformly good academic record and aptitude for research work.

(F) Research Fellow in Statistics-1 (Rs. 450/- p.m. fixed).

M.A./M.Sc. in Statistics with first Division or grade A. Those who have appeared in the final examination of April/May, 1977 and hope to get good position may also apply. The Department has facilities for research in the following areas:-

(i) Multivariate Analysis
(ii) Non-parametric Inference
(iii) Combinatorics and Design of Experiments
(iv) Stochastic Processes.

Research Fellow-1 (Rs. 450/- p.m. fixed).

Deptt. of Zoology:

First class M.Sc. in Zoology with good aptitude for higher research work, the term of the fellowship is 3 years in the first instance.

(G) Research Fellows in Departments of Dayanand Chair for Vedic Studies-2 and Department of Guru Nanak Sikh Studies-2 (Rs. 400/- p.m. fixed each).

Research Fellows in the Department of Dayanand Chair for Vedic Studies

Essential

First or high second class Master's degree in Sanskrit or Vedic Literature from a recognised University.

Desirable

1. Specialisation in Vedic Language or Literature.
2. Degree/Diploma of Oriental Title examination like Shastri, Acharya, Alankar etc.
3. Sufficient knowledge of the Literature of Swami Dayanand.

Research Fellows in Guru Nanak Sikh Studies

M.A. in History/Philosophy/Religious Studies/English/Punjabi and M.Litt. in Religious studies or Double M.As. in the above or allied subjects. Intimate knowledge of Sikh religion, its history and literature etc., having already shown capacity for original writing and research work, and possessing aptitude and potentiality required for assisting the Department in its research programme and other academic pursuits. knowledge of Sanskrit-Hindi/Persian-Urdu desirable: Teaching/Writing/Editing experience preferable.

(H) Junior Research Fellows-2 (Rs. 400/- p.m. fixed each).

(Under UGC Programme of Special Assistance to the Department of Botany in the fields of Bryology including Morphogenesis and Mycology & Plant Pathology (one Fellowship in each discipline).

M.Sc. First class with aptitude for research. These fellowships are for a period of three years in the first instance.

(I) Research Scholars (Rs 400/- p.m. fixed each).

Commerce & Business Management-2, History-2, Central Asian Studies-1, Sociology-2, Statistics-1, Sanskrit-2, Laws-2, Public Administration-2, Philosophy-1, Bio-Physics-2, Pharmaceutical Sciences—one each in Pharmaceutics, Pharmacognosy and Pharmaceutical Chemistry, Botany-3, Geology-2, Physics-2.

Note:
1. The scholarship amount for three posts of Research Scholars in Pharmaceutical Sciences will be Rs. 500/- p.m. fixed each.
2. Research Scholarships in all the subjects will be for a period of two years in the first instance.

Essential

First or high second class Master's degree in the relevant subject with bright academic record and aptitude for research.

Desirable

Research Scholars in Commerce & Business Management

First or high second class MBA or M.Com. or M.A. in Economics/Operational Research/Labour and Social Welfare/Social work with specialisation in Labour Relations and Personnel Management/Master's Degree in Industrial Management.

Research Scholars in Central Asian Studies

Master's degree as mentioned in essential qualifications should be in the subject of History and knowledge of History of China, Japan, Tibet and Central Asia.

Working knowledge of Chinese/Tibetan/Russian

Research Scholar in Statistics

The candidates who have appeared in the final exam (M.A./MSc.Statistics) of April/May, 1977 and hope to get good position may also apply. The Department has facilities for research in the following areas :

(i) Multivariate Analysis.
(ii) Non-parametric inference.
(iii) Combinatorics and Design of Experiments.
(iv) Stochastic Processes.

Research Scholar in Public Administration

(i) Knowledge of research methods and Statistics
(ii) Teaching or research experience.

Research Scholar in Pharmaceutics

Candidate should be first class or second class M. Pharm.

Research Scholar in Pharmacognosy

Candidate should be first class or second class M. Pharm. with specialisation in Pharmacognosy OR first class M.Sc. in Botany.

Research Scholar in Pharmaceutical Chemistry

Candidate should be first class or second class M.Pharm. with specialisation in Pharmaceutical Chemistry OR first class M.Sc. (Organic Chemistry).

Research Scholar in Botany

Some past experience of doing research in any discipline of Botany.

(J) Research Scholar cum Demonstrators
(Rs. 400/- p.m. fixed each)
Biochemistry-3 Chemistry-1.

Research Scholar-cum-Demonstrator in Biochemistry

First class M.Sc. with brilliant academic record and atleast one year research experience.

Research Scholar-cum-Demonstrator in Chemistry

M.Sc. first class or high second class with specialisation in Inorganic Chemistry.

Note : Research Scholar-cum-Demonstratorships in both the subjects will be for a period of two years in the first instance.

Persons already in service should route their applications through proper channel. Incomplete forms and those received after the due date will not be entertained. Serving employees may, however, send their applications on the prescribed proforma direct to the University. They may route another copy through their Departments. They will be allowed to present themselves for interview only on the production of a 'No Objection' Certificate from their employers. Canvassing in any form will disqualify a candidate.

Application forms can be obtained from the Office of the Finance & Development Officer, Panjab University, Chandigarh by making a written request accompanied with self-addressed stamped envelope of 23 x 10 cms.

UNIVERSITY OF BOMBAY

Centre of Post-graduate Instruction & Research, Panaji, Goa.

Applications are invited for the following **temporary** posts in the Centre of Post-graduate Instruction & Research, Panaji, Goa :

1. Reader in French
2. Reader in Modern History (with specialization in erstwhile Portuguese Colonies in Asia and Africa)
3. Professor of Economics (with specialization in Development Economics)
4. Reader in Economics (with specialization in Statistics/Econometrics)
5. Lecturer in Economics (with specialization in Regional Planning)
6. Professor of Political Science (with specialization in Development Administration)
7. Reader in Sociology (with specialization in Social Change)
8. Reader in Sociology (with specialization in Sociology of Art and Culture)
9. Professor of Physics (with specialization in Nuclear Radiation Physics applied to Biology)
10. Reader in Physics (with specialization in Nuclear Magnetic Resonance Studies)

11. Lecturer in Physics (with specialization in Electronics Instruments)

12. Professor of Chemistry

and

13. Reader in Chemistry (with the following specialization):

(i) In Industrial Chemistry with specialization in Pharmaceuticals, pesticides or essential oils with a basic degree in Organic Chemistry, Industrial Chemistry or Chemical Technology;

or

(ii) In Inorganic/Physical Chemistry

14. Lecturer in Chemistry (with specialization in Organic Chemistry)

15. Lecturer in Chemistry (with specialization in Physical/Inorganic Chemistry)

16. Reader in Mathematics (with specialization in Applied Mathematics, Fluid Machanics, Control and Optimization Theory)

17. Lecturer in Mathematics (with specialization in Pure Mathematics)

18. Professor of Marine Science—In any one of the branches in Marine Sciences (excluding Marine Engineering)

19. Reader in Marine Science—In any area of Marines Physical Science including Oceanography

20. Reader in Marine Science—In any area of Marine Biological Sciences

21. Lecturer in Marine Science—In Marine Geology and Geophysics

22. Lecturer in Marine Science—In Marine Chemistry

The grades of the posts are—Professors: Rs. 1100-50-1300-60-1600, Readers: Rs. 700-50-1250 and Lecturers: Rs. 400-40-800-50-950. These scales are likely to be revised as per U.G.C. recommendations.

All the posts carry the benefits of University Provident Fund and Dearness and House Rent allowances at the rates sanctioned by the Executive Council from time to time. A higher starting salary may be given to a person possessing high qualifications. Other things being equal preference will be given to candidates from backward classes. Posts of Lecturers are reserved for scheduled castes and scheduled tribes and will be filled up by appointment of such persons only as shall satisfy the requirements regarding qualifications, experience etc. laid down for the posts, provided however that if no candidates are available from the scheduled castes and scheduled tribes, the posts will be filled up by appointment of duly qualified persons from among other applicants.

The general requirements for the posts are as follows:

Professors & Readers:

(a) A Doctor's degree or published work of an equally high standard; and

(b) consistently good academic record with 1st or high 2nd class (B+) Master's degree in a relevant subject or an equivalent degree of a foreign University.

Plus those additional qualifications prescribed by the University by way of experience etc.

Lecturers:

(a) A Doctor's degree or published work of an equally high standard; and

(b) consistently good academic record with 1st or high 2nd class (B+) Master's degree in a relevant subject or an equivalent degree of a foreign University.

Further details regarding qualifications, teaching experience etc. prescribed for the posts are as under:

The applicants for the post/s at serial—

No. 1:—must have experience of teaching Post-graduate classes and of guiding and conducting research work.

No. 2:—must have specialization in erstwhile Portuguese Colonies in Asia and Africa and must have experience of teaching Post-graduate classes for at least 10 years and guiding and conducting research work in Modern History and must have done independent research work of recognized merit.

No. 3:—must have done independent research work of recognized merit and have considerable experience in guiding and conducting research work. They must have specialization in Development Economics.

No. 4:—must have done independent research work of recognized merit and experience of teaching Post-graduate classes and of guiding and conducting research work. They must have specialization in Statistics/Econometrics.

No. 5:—must have done independent research work of recognized merit. Experience of teaching post-graduate classes and of guiding and conducting research work will be an additional qualifications. They must have specialization in Regional Planning.

No. 6:—must have done independent research work of recognized merit and have considerable experience in guiding and conducting research work. They must have specialization in Development Administration.

No. 7:—must have done independent research work of recognized merit and must have experience of teaching post-graduate classes and of guiding and conducting research work. They must have specialization in Social Change.

No. 8:—must have done independent research work of recognized merit and must have experience of teaching post-graduate classes and of guiding and conducting research work. They must have specialization in Sociology of Art & Culture.

No. 9:—must be scholars of eminence, and must have to their credit independent research work of recognized merit in the area of Nuclear Radiation Physics applied to Biology and must possess experience of teaching post-graduate classes and guiding advanced research.

No. 10:—must have to their credit independent research work of recognized merit in the area of Nuclear Magnetic Resonance Studies and must possess experience of teaching post-graduate classes and guiding advanced research.

No. 11:—must have specialization in Electronics Instruments. They must have published work or research work of recognized merit. Experience of teaching post-graduate classes will be an additional qualification.

No. 12:—must be scholars of eminence and must have to their credit independent research work of recognized merit in the area of Inorganic Chemistry/Physical Chemistry/Industrial Chemistry. Applicants possessing qualifications in Industrial Chemistry should have specialization in Pharmaceuticals, pesticides or essential oils with a basic degree in Organic Chemistry, Industrial Chemistry or Chemical Technology. Applicants must also possess considerable experience of teaching post-graduate classes and guiding and conducting advanced research.

No. 13:—must possess degrees in Inorganic Chemistry/Physical Chemistry/Industrial Chemistry. Applicants possessing qualification in Industrial Chemistry should have specialization in Pharmaceuticals, pesticides or essential oils with a basic degree in Organic Chemistry, Industrial Chemistry or Chemical Technology. They must have a wide background and general competence in the subject, considerable experience of teaching post-graduate classes and guiding and teaching advanced research.

No. 14:—must possess degrees in Organic Chemistry. Experience of teaching post-graduate classes and of guiding and conducting research work will be an additional qualification.

No. 15:—must possess degrees in Physical/Inorganic Chemistry. Experience of teaching post-graduate classes and of guiding and conducting research work will be an additional qualification.

No. 16:—must have specialization in applied Mathematics, fluid Mechanics, Control and Optimization Theory and considerable experience of teaching post-graduate classes or an evidence of 3 years of post-doctoral research of high quality.

No. 17:—must have specialization in pure Mathematics. Experience of teaching postgraduate classes and of guiding and conducting research work will be an additional qualification.

No. 18:—must be scholars of eminence, must have to their credit independent reseach work of recognized merit and must possess experience of teaching post-graduate classes and guiding advanced research for a considerable period.

Nos. 19 & 20:—must have a wide background and general competence in their respective fields and must have done independent research work of recognized merit, and must possess considerable experience of teaching post-graduate classes and of guiding and conducting research work or must be persons of eminence.

No. 21 & 22:—possessing experience of teaching post-graduate classes and of guiding and conducting research work will be preferred.

Two copies of the application in the prescribed form, which can be had from the Registrar, should be submitted so as to reach the Registrar, University of Bombay, Bombay-32. on or before **30th July, 1977.**

Candidates called for interview will have to present themselves at their own expense.

Canvassing direct or indirect will be a disqualification.

K.S. KOLGE
Offg. REGISTRAR

SOUTH GUJARAT UNIVERSITY

University Campus, Udhna-Magdalla Road,
Post Box No. 49
Surat-395007

Applications in the prescribed forms (in eight copies) are invited for the following teaching posts in the Post-Graduate Departments of the University.

Sr. No.	Name of the Department	No. of Posts
1.	Public Administration	One Reader One Lecturer
2.	Chemistry	One Reader (Applicants to be qualified in Physical/Organic/Inorganic Chemistry with deep research interest in Dyestuff Chemistry and in Drugs.) One Lecturer
3.	English	Two Readers One Lecturer
4.	Bio-Sciences	One Professor (To be qualified in Marine Biology/Algology/Fishery)
5.	Sociology	One Reader
6.	Business and Industrial Management	One Professor One Reader Four Teaching/Research Associates/Case Analysts in the scale of Lecturer (Professor-Reader are required with specialisation in following areas) (1) Marketing Management (2) Human Relations in Management Studies (3) Economics with Orientation in Management Studies and quantitative Analysis
7.	Physics	One Professor One Reader One Lecturer (Applicants for the post of Professor and Reader should be qualified in Nuclear and/or Particle Physics (Theoretical) and one of whom should be M. Tech./M.Sc. (Tech.) in Electronics/Solid State devices, besides other stipulated qualifications for the post. The lecturer may be qualified in Electronics)
8.	Economics	Two Lecturers
9.	Mathematics	One Professor
10.	Statistics	One Reader
11.	Interdisciplinary in Social Sciences	One Professor (Specialist in Research Methodology and qualified in Economics and/or Sociology)
12.	Education	One Reader (Research experience in Educational Administration and Curriculum Planning)

The Pay Scales are as under:

1. Professor—Rs. 1500-60-1800-100-2000-125/2-2500
2. Reader — Rs. 1200-50-1300-60-1600-Assessment-60-1900
3. Lecturer — Rs. 700-40-1100-50-1300-Assessment-50-1600

In addition to pay the teachers of the University Departments are entitled to draw dearness allowance, house rent allowance and other benefits like contributory Provident Fund and Gratuity as may be decided from time to time.

Information about the qualification prescribed for each post and forms prescribed for each post can be had from the undersigned on payment of Rs. 7/- in cash or by Postal Order and with self addressed envelope of 23 cm x 13 cm size duly stamped with Re. 0.50 paise. The last date for receipt of the applications is **6-8-1977.**

G.A. Desai
REGISTRAR

THE UNIVERSITY OF BURDWAN

Advertisement No. 5
Dated the 8th July, 1977

In partial modification of Advertisement No. 4 dated 28.6.77, it is notified that the post of Reader in Political Science under serial No. 1 is lien-free permanent post and the selected person will be on probation for one year.

Sd/- A.K. Banerji
Registrar

BANARAS HINDU UNIVERSITY

Corrigendum

For all posts of Professors and Readers advertised earlier the basic essential qualification may be read as follows:

> "A first or second class Master's Degree in the subject or an equivalent qualification."

For the posts of **Lecturers** in the Institute of Technology only, the essential qualifications will remain as mentioned in advertisements No. 18 of 1976-77 and No. 2 of 1977-78 and **not** include "a Doctorate Degree or Research work of an equally high standard."

The last date for the receipt of applications has been extended to Saturday **July 23, 1977.** Those who have applied earlier need not apply again.

ALIGARH MUSLIM UNIVERSITY

Advertisement No. 12/77-78

Applications on the prescribed form are invited for the following posts of Readers (Plan Posts) in the scale of Rs. 1200-50-1300-60-1900 plus allowances.

1. Reader in — Animal Ecology
   Zoology
2. Readers in — One in Applied Cartography with specialisation in Air
   Geography Photo Interpretation; and the other in
   (2 posts) Quantitative Methods in Geography.

Qualifications:

(a) A first or a high second class Master's Degree in the subject concerned of an Indian University or an equivalent foreign qualification; (b) A research degree of a doctorate standard or published work of a high standard; and (c) At least five years experience of teaching postgraduate classes and some experience of guiding research.

Prescribed application forms and instructions may be had from the Deputy Registrar (Executive) either personally or by sending a self addressed envelope of 23x10 cm. Last date for receipt of applications is **8th August, 1977.** Incomplete applications and those received late may not be considered.

Higher initial start may be given to candidates possessing exceptional qualifications and experience. Candidates interviewed may be paid contribution towards their T.A. equal to one single second class railway fare only.

(Jamalur Rahman)
REGISTRAR

JADAVPUR UNIVERSITY
CALCUTTA-32

June 30, 1977

The university invites application in the prescribed form for the following posts :—

1. **Professor** :

(a)	Civil Engineering	—	1
(b)	Philosophy	—	1
(c)	Chemistry (Inorganic Chemistry)	—	1

2. **Reader** :

(a)	Chemical Engineering	—	1
(b)	Philosophy	—	2
(c)	Bengali	—	1

Lecturer:

(a)	Civil Engineering	—	1
(b)	Chemistry (Physical Chemistry)	—	1
(c)	Philosophy	—	1

Qualifications :

For all posts except 2 (a) & 3 (a) :
Essential:

(i) Research Degree of doctorate standard (relaxable in case of candidates having brilliant academic career and research experience) or published work of equally high standard.

(ii) Consistently good academic record with at least high second class Master Degree in the relevant subject

For 3 (b) :

(iii) Candidates should have offered Physical Chemistry as a special subject at the postgraduate level.

For posts 2 (a) & 3 (a) :
Essential:

(i) High Second Class Master's Degree in the respective subjects

(ii) Consistently good academic records.

Experience :

(i) **For all posts at 1**:

10 years teaching research industrial experience (for engineering post) including 5 years teaching experience at the postgraduate level, proven ability to guide research.

(ii) **For all posts at 2**:

5 years teaching/research/industrial experience (for Engineering post only) including 3 years teaching experience at the post-graduate level (at the undergraduate level for Engineering post)

Desirable :

(i) For all posts of Lecturer: 2 years teaching/research experience.

(ii) For all posts of Reader: Ability to guide research.

(iii) For Professor in Engineering: Corporate membership of professional bodies.

Specialisation :
For post 1 (a) :

Soil Mechanics and Foundation Engineering. Experience of organising laboratory for research & post-graduate teaching.

For post 1 (b) :

Ability to undertake, organise and supervise research in Philosophy of Language. Ethics, Social Philosophy and Theory of Communication.

Reader :

For post 2 (a):

Energy and Mass Transfer/Kinetics and Reactor Design/Petroleum Refinery/High Polymer Engineering.

For Post 2 (b):

Specialisation in Indian Logic and Mathematics/Analytical Philosophy/Modern Logic/Sociology of knowledge/Social Philosophy.

Lecturer:

For Post 3 (a):

Specialisation in Soil Mechanics and Foundation Engineering.

Scales of Pay:

Professor: Rs 1500-60-1800-100-2000-125 2-2500/-.
Reader : Rs. 1200-50-1300-60-1900/-.
Lecturer: Rs. 700-40-1100-50-1600/-.

Last date of receiving application is 30.7.77

Application forms are obtainable from the University Office during working hours on payment of Rs 2/- or by post on payment of Rs. 2/- + Re 1/- as postal charges. No travelling allowance is admissible to candidates called for interview. Higher initial salary may be given to really deserving candidates. Those who are in employment should submit their application through proper channel. Choice of the Appointment Board will not necessarily be confined to applicants only. Canvassing in any form will disqualify a candidate.

REGISTRAR

S.N.D.T. WOMEN'S UNIVERSITY

1, Nathibai Thackersey Road,
Bombay-400 020

Applications are invited on prescribed forms available from the University Office on payment of Rs. 5 (by money order or in cash) for the following posts, so as to reach the undersigned not later than **July 30, 1977**.

1. **Director of Continuing Education**

(a) A first or second class Master's Degree of an Indian University or an equivalent qualification of a foreign University in Adult Education/Social Sciences/Social Work.

(b) A research degree of the doctorate standard in any of the above subjects or an outstanding competence assessed from the review of published research carried out.

(c) About ten years experience in programme planning, administration and teaching.

(d) A person with experience in community development projects with emphasis on adult/non-formal education will be preferred.

Rs. 1100-50-1300-EB-60-1600+ Admissible Allowances (Total initial emoluments about Rs. 1520).

2. **Development Officer**

(a) A first or second class Master's Degree.

(b) Either a Research Degree of the doctorate standard or an outstanding competence assessed from the review of published research carried out.

(c) At least five years experience of academic and administrative work in an institute of higher learning or a University department.

Rs. 700-50-1000-EB-50-1250+ Admissible Allowances (Total initial emoluments Rs. 1150).

3. **Employment Officer**

(a) A first or second class Master's Degree in Psychology/Personnel Management or in allied field.

(b) Experience of work related to employment of students and graduates.
Rs. 400-40-720-EB-40-800-50-950+ Admissible Allowances (Total initial emoluments about Rs. 870).

4. **Lecturer in Language Teaching— PVDT College of Education**

(a) Consistently good academic record with a degree in English and a first or second class Master's Degree in Languages.

(b) M. Phil or a recognised degree beyond the Master's level or published work indicating the capacity of a candidate for independent research work.

(c) A person with a Bachelor's Degree in Education with English as a special method and a Diploma in Linguistics will be preferred. Condition (b) relaxable but person appointed will have to acquire qualification within prescribed period.
Rs. 400-40-720-EB-40-800-50-950+ Admissible Allowances (Total initial emoluments about Rs. 870).

Note: (a) Other things being equal preference will be given to candidates belonging to Scheduled Castes/Scheduled Tribes/Nomadic and other Backward Communities (b) Job specifications should be collected with the application forms (c) Higher start in salary may be considered in exceptional cases (d) Proficiency in English essential (e) Knowledge of Marathi/Gujarati necessary (f) The University reserves its right to relax conditions related to research and experience.

(Smt.) Kamalini H. Bhansali
REGISTRAR

ALIGARH MUSLIM UNIVERSITY

Advertisement No. 11/77-78

Applications, on the prescribed form, are invited for the following posts:

1. **Readers in Political Science (two Plan Posts—one each in International Organisation and Political Behaviour). Scale Rs. 1200-50-1300-60-1900 plus allowances.**

   Qualifications:

   (a) A first or high second class Master's Degree in the subject concerned of an Indian University or an equivalent foreign qualification; (b) A research degree of a doctorate standard or published work of a high standard; and (c) Atleast five years experience of teaching Postgraduate classes and some experience of guiding research.

2. **Reader in Political Science (Plan Post), Women's College. Scale Rs. 1200-50-1300-60-1900 plus allowances.**

   Qualifications:

   (a) A first or a high second class Master's Degree in the subject concerned of an Indian University or an equivalent foreign qualification; (b) A research degree of a doctorate standard or published work of a high standard; and (c) Atleast five years teaching experience of Postgraduate classes and/or five years teaching experience of undergraduate classes.

3. **Reader in Physics, Z.H. College of Engineering and Technology. Scale Rs. 1200-50-1300-60-1900 plus allowances.**

   Qualifications:

   (a) First or high second class Master's Degree in Physics of an Indian University or an equivalent qualification; (b) Ordinarily a research degree in Physics of a Doctorate standard or published work of a high standard; (c) Ordinarily five years experience in Physics of Postgraduate teaching or guiding research or of teaching degree classes in Engineering

   Desirable:

   Specialisation in the field of Theoretical Physics, Solid State Physics or any other branch of Experimental Physics at the research level.

4. **Readers in Mechanical Engineering (2 posts—one permanent and one temporary but likely to become permanent), Z.H. College of Engineering & Technology. Scale Rs. 1200-50-1300-60-1900 plus allowances.**

   Qualifications:

   Basic Degree in Mechanical Engineering and seven years experience or Master's Degree with five years experience or Doctor's Degree with two years experience; Two years of the experience should be in teaching in an Engineering institution of degree standard and/or research.

   Desirable:

   Published research work in reputed journals. Teaching experience to Postgraduate classes; Specialisation in Industrial/Production Engineering/Heat Power Engineering or Fluid Mechanics.

Prescribed application forms and instructions may be had from the Deputy Registrar (Executive) either personally or by sending a self-addressed envelope of 23 cm x 10 cm. Last date for receipt of applications is **25th July, 1977**. Incomplete applications and those received late may not be considered.

Higher initial start may be given to candidates possessing exceptional qualifications and experience. Candidates interviewed may be paid contribution towards their T.A. equal to one single second class railway fare only.

Jamalur Rahman
REGISTRAR

GUJARAT UNIVERSITY

Applications are invited in the prescribed form available from the Registrar, Gujarat University, Ahmedabad-380 009 so as to reach him on or before **30th July 1977** for the following posts of Lecturers in the University Schools in the Pay scale of Rs. 700-40-1100-50-1300-assessment 50-1600:

1.	Lecturer in Microbiology	One post
2.	Lecturer in Computer Science	Two posts
3.	Lecturer in Geography	One post

A copy of the rules governing minimum qualifications can be obtained on request.

The above posts carry Dearness Allowance and other allowances as per the rules of University. The benefits of either Provident Fund and Gratuity or pension will be admissible as per the rules of the University in force from time to time. The candidates selected for the above posts shall have to learn the Gujarati language during the period of probation. Application form can be had on payment of Rs 2/- payable in advance either in cash or by money order or by postal order.

K.C. PARIKH
UNIVERSITY REGISTRAR

INDIAN SCHOOL OF MINES
DHANBAD-826004.

Advt No. 420006/77 Dated July 7, 1977

The Indian School of Mines, which is 'deemed to be University', invites applications for the following posts:

1. One STA (Electrical) for the Deptt of Engg and Mining Machinery.
2. One STA (Electronics) for the Central Instrument Service Section.
3. One Horticulturist.
4. One SSA/SA (Mine Gas Analysis) for the Deptt of Mining Engg.
5. One TA (Maintenance) for Mineral Engineering Laboratory.
6. One SA (Museum) in the Deptt of Applied Geology.

Pay Scales: STA/Horticulturist: Rs. 550-25-750-EB 30-900/-
TA/SA: Rs 425-15-500-EB-15-560-20-700/-

Besides pay, ISM employees get allowances as admissible to Central Government employees. Total emoluments at the stage of Rs. 550/- currently come to Rs. 763.50 and at the stage of Rs. 425/- to Rs. 590.30. Higher initial salary may be granted to specially qualified and experienced candidates.

Age: Normally not more than 35 years in case of STA and Horticulturist and 30 years for other posts.

Further details and prescribed application forms are obtainable from the Registrar, Indian School of Mines, Dhanbad-826004 on sending a self-addressed envelope of size, 30 cm × 12 cm, affixed with postage stamps of the value of Rs. 2.65 only. Completed application forms should reach the Registrar on or before **30th July, 1977**.

CANVASSING IN ANY FORM WILL BE TREATED AS A DISQUALIFICATION.

S.K. Bordia
REGISTRAR

Printed & Published by ANJNI KUMAR, on behalf of the Association of Indian Universities (formerly known as Inter-University Board of India), Rouse Avenue, New Delhi - 110002

University News

A CHRONICLE OF HIGHER EDUCATION & RESEARCH AUGUST 1, 1977 80 PAISE

C. Chunder, Union Education Minister, presenting a certificate to a student at the second convocation of ndian Institute of Management, Bangalore. Looking on is Mr. N.S. Ramaswamy, Director of the Institute.

CLASSIFIED ADVERTISEMENTS

OSMANIA UNIVERSITY
Hyderabad-500 007 (A.P.)
Advertisement No. 5/1977

Applications in the prescribed form together with the Registration Fee of Rs. 5/- are invited for the following posts in the University service, so as to reach the undersigned on or before **16-8-1977**.

Application forms with full particulars can be had from the Director, Department of Publications &University Press, Osmania University, Hyderabad-500 007 (A.P.) on payment of Rs. 4-50 in person or by Money Order or by a Postal Order UNCROSSED made payable to the Director and by sending a self-addressed envelope (11¼X26¼ cms.)

S. No.	Subject	Professor	Reader	Lecturer
I.	**FACULTY OF ARTS**			
1.	Philosophy	1	1	—
2.	Marathi	1	—	—
3.	Kannada	—		2
4.	Linguistics	—	—	2*
5.	Journalism	—	—	1
II.	**FACULTY OF SOCIAL SCIENCES**			
6.	History	1	—	1
III.	**FACULTY OF SCIENCE**			
7.	Physics	—	2	—
8.	Chemistry	—	2	—
9.	Zoology	—	—	2**
10.	Statistics	1	—	—
11.	Microbiology	1	—	—
12.	Bio-chemistry	—	2	—
13.	Geo-physics	1	2	3
IV.	**FACULTY OF EDUCATION**	2	—	4

NOTE : The candidates who have applied in response to the Advertisement No. 4/77 for the post of Professor of Education, need not apply again.

*Posts temporary but likely to be made permanent.

**For one post — specialisation in Fish Emryology and for the other in Vertebrata Endocrinology is required.

The details of qualifications prescribed in respect of each post including the particular branch of specialisation which is needed and also the preferential qualifications considered desirable will be furnished along with the application forms.

Age :	Professors	Not above (50) years
	Readers	Not above (40) years
	Lecturers	Not above (35) years

Note
1. Age limit does not apply to the employees of this University.
2. Age relaxation can be considered in deserving cases.
3. Relexation in age to the extent of five years may be granted to candidates belonging to Scheduled Castes and Scheduled Tribes. Certificates in respect thereof is to be attached with the application.
4. The teachers of Affiliated Colleges who have put in at least five years of service in any of the Colleges affiliated to the Osmania University will be given relexation in age to the extent of five years.

Scales of Pay:

1.	Professor	Rs. 1,500—2,500
2.	Reader	Rs. 1,200—1,900
3.	Lecturer	Rs. 700—1,600

14% and 4% reservations are made for Scheduled Castes and Scheduled Tribes respectively to the extent of Lecturers only.

duly stamped for Ordinary or Registered post.

Sd
(B. Ramachandra Reddy)
REGISTRAR

MADURAI UNIVERSITY
No. 4 Advt/77/V

Applications in the prescribed form are invited for the following posts in the Departments of the University.

1. One Reader in English with specialisation in American Literature and/or comparative literary criticism.
2. Two Lecturers in English with specialisation in American Literature or Twentieth century fiction.
3. One Lecturer in MALAYALAM

Scale of Pay

Reader — Rs. 700-50-1250
Lecturer — Rs. 400-40-800-50-950

(The U.G.C. scales of pay will be given on approval by the Government shortly)

Higher starting salary will be offered in deserving cases.

Preference would be given to Scheduled Caste/Scheduled Tribe candidates who are considered fit in respect of **Posts of Lecturers**.

Those who do not possess at least 50% of marks in their post-graduate course need not apply.

The prescribed form of application and other details can be got from the undersigned on requisition accompanied by (1) a self-addressed envelope with postage stamps to the value of 0.40 paise affixed thereon and (2) State Bank of India challan for Rs. 5/- payable at Madurai drawn in favour of the Registrar, Madurai University, Madurai-625021.

The last date for receipt of applications is **10th August, 1977.**

B. MURUGAN
REGISTRAR

SAMBALPUR UNIVERSITY
JYOTI VIHAR: BURLA
Advertisement

No. 19652/Estt. dated the 12-7-77

Applications in the prescribed forms with attested copies of marksheets and certificates of each of the examinations passed are invited for the posts of one Asst. Registrar (Academic) and one Assistant Registrar (Administration).

I. Qualifications:
  (a) A Master's degree in any subject from a recognised University.
  (b) A minimum of two years experience in teaching or administration.

Candidates having a Bachelor's degree from a recognised University with a minimum of 5 years office administrative experience in an educational institution are also eligible to apply for the post of Assistant Registrar (Administration) only.

II. Scale of Pay:—Rs. 400-40-800-50-950 - (likely to be revised).

Both the posts carry usual Dearness allowance and C.P.F. and Gratuity benefits as sanctioned by the University from time to time.

Five copies of application forms will be supplied from the University office to each candidate in person on cash payment of Rs. 10/-. Candidates who intend to receive their forms by post are required to send (a) crossed Indian Postal Order of Rs. 10/- payable to the Finance Officer, Sambalpur University, Jyoti Vihar, Burla (b) a self-addressed envelope (23 cm × 10 cm) with postage stamp worth Rs. 2.85 affixed to it with the words "APPLICATION FORM FOR THE POST OF ASSISTANT REGISTRAR (ACADEMIC) OR ASSISTANT REGISTRAR (ADMINISTRATION) as the case may be superscribed on it. Money orders or cheque will not be accepted.

The last date of receipt of application in the University Office, Jyoti Vihar Burla is **20.8.77**. All communications should be addressed to the Registrar Sambalpur University, Jyoti Vihar Burla, Dist. Sambalpur (Orissa) by designation only.

The candidates will be required t appear for an interview at their ow expenses before a Selection Committe Intimation will be sent to the candidat for appearing at the interview in d course.

The selected candidates must jo within one month from the date of iss of appointment order.

Sd/-
(G.P. Guru
REGISTRA

UNIVERSITY NEWS

Vol. XV No. 15
AUGUST 1 1977

A Fortnightly Chronicle of Higher Education
Price 80 Paise

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Opinions expressed in the articles and reviews are individual and do not necessarily reflect the policies of the Association

Editor : ANJNI KUMAR

AIU suggests basic changes in educational policy

At the last meeting of the Standing Committee the changing pattern of university structure and control exercised by the State Governments over the affairs of the universities was reviewed. It was recognised that over the last few years government control over universities had increased considerably. There were instances when some of the power earlier exercised by the Chancellor were taken over directly by the State Governments. In a large number of cases, Ordinances had been issued in total disregard of academic opinion in the matter. In regard to financial control also, the State Governments had taken over more and more powers. Surveying the whole scene, the committee recommended as follows:

(i) The whole field of university governance had been surveyed by the Gajendragadkar Committee not so many years ago. Attempts should be made to ensure that the recommendations made therein were followed by the governments both in letter and spirit.

(ii) The principle of interposing the Chancellor between the Government and the University is a sound one and efforts should be made to ensure that the Chancellor acts as an independent authority. In general this should be governed by conventions evolved in this regard. Wherever feasible, constitutional amendments may be carried out.

(iii) It has become necessary to underline the fact that the powers of the Chancellor have been eroded to a considerable degree in recent years. It is therefore necessary to ensure that he continues to exercise those powers which have been traditionally exercised by him.

The committee also considered the constitution of student unions in the universities. It was noted that universities had different practices in this regard and it might not be so easy to bring them into line with one another. There were two principles however which must be affirmed to be of paramount importance and every university should seek to ensure that whatever be the detail of the constitution drawn up for the students union, the following guidelines be observed:

(i) Membership of the union should be optional. Those who wish to join may join and those who do not wish to join should not be obliged to join.

(ii) While elections are an important part of any system of representation, emphasis should also be placed on other methods of selection such as rotation, ex-officio membership and nomination in certain cases.

It was noted that in response to the suggestion made by the Sen Committee, a number of universities had taken up the issue of asking their teachers to evolve a code of conduct for themselves. The situation was highly uneven in this regard as well. Not many universities had been able to finalise such a code. In most cases the teachers were not enthusiastic about this proposal. In certain other cases, legal difficulties had been encountered. Taking the overall situation into account, the committee recommended as follows:

(i) When scales of pay were revised in 1970 in accordance with the recommendations of the Sen Committee, a code of conduct for teachers was to be drawn up. Except for a few universities this has not happened. The problem may be attended to therefore immediately.

(ii) While the general guidelines in respect of the hours of work and such other matters had been indicated in the report of the Sen Committee, the matter required to be concretised further in terms of lectures, laboratory work, extra-curricular activities, and such other matters.

(iii) Experience has shown that refusal to pay remuneration to teachers for examination and invigilation work is creating all kinds of difficulties. It is desirable to reconsider the question in the light

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Youth Activities in University

H. S. Sanghvi*

The problems of rearranging and refashioning youth activities in the universities is one of the most vital and most pressing problems facing the educational planners and administrators today. In spite of a sufficiently long and measurable period of about three decades, since the nation achieved independence, precious little has been attempted and accomplished in this channel of educational activities. When large and meaningful endeavours are undertaken at the national level to bring the fruits of independence to the lowest, humblest and the most down-trodden, and gigantic efforts are needed to regenerate national consciousness with a view to secure much needed development, the consideration of the overall role of the youth in such efforts demand utmost urgency and a firm determination to vigorously implement any well-based plan, oriented to the needs of the nation.

It must be realised that there is a general clamour for a new order, throughout the world and there is a great urge for equal opportunity to all to raise the level of existence and enjoy the fruits of life. Nearer at home, there is a tremendous earnestness, to bring about social transformation of the country, accelerate economic development, serve the poor and the needy and strengthen the democratic institutions of the nation on an egalitarian basis There are all purposeful intentions and genuine aspirations to reduce poverty, illiteracy and unemployment and there are enough potent to indicate that the youth also share these ideals. There is indeed a very great need to countermand frustration, on his part which takes him to head-long plunge into destructive directions and the surpreme consideration in devising youth activities will be to effectively deal with such a menacing situation. What is needed is, to imbibe in the youth a philosophy, a purpose, a policy and a programme of being involved in national betterment and making him realise that he has also to play his legitimate energetic, active and more outstanding role in the efforts of national reconstruction. All efforts must be devoted to generate a new ethos amongst the youth where there is a vivid realisation that these are the times of genuine study, intensive research, developing a scientific temper of mind, shedding the spirit of securing simply self-interest without scruples, hard-work, and high ethical standards, a sense of involvement in the national development and feeling that national interests are supreme and above any and all considerations. This is not an easy task and apart from the active steps which may be visualised for action to achieve such objectives, perhaps the first need would be for all these working with the youth, to generate for themselves such an ethos because the youth will learn more by practice than by precept.

In order to inculcate such a spirit in the mind of the youth of the university, the first step would be to make him feel that those who work with him are keen on bridging the generation gap and that they are working for a helpful partnership in a joint lofty venture. The spirit of meaningful comradarie would ensure much larger success in any endeavour and it needs no argument to state that unless an understanding develops, all efforts may prove abortive. It is not enough to leave such matters to the subordinate officers who probably cannot enthuse the youth in the desired manner. When a significant change in the attitude and behaviour of the youth is sought, the lead shall have to come from the top and those at the helm of affairs, will have to associate themselves with all activities in a more than mere symbolic manner.

Any planning of youth activities will be broadly under two heads, viz., academic and non-academic activities. Academic activities are equally essential under present circumstances because the academic standard of the university youth is undergoing downward trend. When the frontiers of knowledge are continuously expanding, our youth relies more on short-cuts, guides and notes to pass out examinations, which do not witness any significant change, notwithstanding years of discussions and experiments. There may not be an acute problem of 'drop-outs' in the sense, the American Universities experience. Nevertheless, it is very true that there is a very serious problem of absentee students, 'drop-outs' from class lectures and non-attentive student population. Further, the morning colleges, with their obvious limitations of time and atmosphere leave very little scope for proper and intensive study and all these factors are in no small measure, responsible for a declining academic and intellectual growth. The need of the hour, therefore, is to foster and augment academic and intellectual growth of the youth also, giving him tools to develop a scientific temper of mind and reading and research habits. While the old-fashioned lecture system of teaching still persists, and there is nothing on the horizon to indicate that it will go soon in view of every day increasing numbers, active efforts will have to be initiated and vigorously pursued to supplement the poor quantum of knowledge that the youth acquires during his study hours in the class. Seminars, symposia and discussions all in small groups under guidance of able teachers, and organising lecture series of learned speakers at regular intervals will give the necessary philip to the receptive minds of the youth to study further. But, organizing study circles and reading camps will bring far richer dividends, in this direction. In some universities, both these activities, have been outstanding and have enthused the youth in a remarkable manner. Groups of youth, under the guidance of willing and sympathetic teachers gather to gather and give the benefit of their study, turn by turn, to their group mates. Each member has his turn and after the initial talk, an energetic discussion follows. Sometimes such discussions are based on studied, informative and thought-provoking papers or articles in reputed journals. Such studies foster the art and practice of

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**Vice-Chancellor, Saurashtra University.*

writing also, which is so woefully lacking today and will be fore-runners for research pursuits in due course of time. They will nurture research attitudes also. Reading camps should, as far as possible, be outside the portals of the premises preferably, to a nearby place under able leadership affording atmosphere and space relief for the campers. A set of well-chosen books, preferably with a pre-determined purpose, provided in the required numbers, will ensure a larger success to the camp. Each camper, may be asked to make his own notes of his study to be exchanged and discussed with others who have also received the same book, with the ultimate purpose of writing his own observations on the book and that will give the reader large benefits. For activising the minds of the youth, for an intellectual exercise, library habits are to be fostered. Obviously, the institute must have an adequate library to meet with the needs of the students. Perhaps, a great need today is the production of studied literature in books and journals in the language of the region because, the use of English, for all practical purpose is definitely diminishing. But mere storing or stacking books in cup-boards or shelves are of no avail unless the teachers lead the students to make their use. This is absolutely essential to ensure a successful library programme. The youth needs a proper guidance with a list of books and journals, initially given by the teacher, in the early part of the year, to be followed by supplementary lists at stated intervals. It will be helpful, if the teacher accompanies the students to the library and demonstrates new books, or articles in journals all to be read, intensively and also how notes of the material so read are to be taken. The art of writing needs a good training and it will be helpful if the university youth gets such a training. However, it is to be accepted that even though skill can be imparted, the urge of writing cannot be thrust upon anybody. Finally, research cells at the university and the colleges are a great need of the day. Our research endeavour needs depth and utilitarian objectives and its quantum on an overall basis is indeed poor. This is primarily so, because by and large, our youths, till graduation and even at post-graduate study do not get an impetus, training and background for research. Regular publication of alumnis' journal if not twice, at least once a year, containing articles and papers written by the alumnis of the university will also be very helpful in this direction. Whatever may be otherwise true, the general condition of our academic pursuits, if studies in a majority of poorly equipped colleges can be considered at all academic pursuits, is indeed very poor and a much larger ground on a planned basis needs to be covered in this direction.

This brief description of the additional activities, required to be undertaken for the University youth in order to equip him with academic and intellectual background for a pusuit of higher objectives and much keener intellectual exercises will, if adopted, be considerably instrumental in removing a lacunae so patently felt at the university level today.

While considering non-academic activities for the youth of the university, two glaring facts become so very evident. One is the comparatively poor physical structure of the youth, both men and women and their extremely disappointing sports achievements. Much heart-searching has to be done in both these contexts. Each university has a department of sports and sport activities are continued for quite a good part of the year. Even the inter-university competitions in various games are held each year in different parts of the country. Further inter-state competitions and Indian olympic fixtures are a yearly feature. Plenty of money is spent on all these activities. Yet a nation of 600 million people could not win a single gold medal at the Montreal olympics. Perhaps much of the money spent on such competitions are an unplanned and wasteful expenditure. Regular exercises, Vyayams or Akhadas inexplicably out of tune with the modern notions of games, sports and physical fitness. Here the university comes into picture and the time has come when the university must build its sports man and sports woman in a planned and proper manner. With more than adequate expenditure on all types of physical activities, the university youth is far behind his counterpart in many countries of the world. The dire necessity of the day is reorganization of such activities. Let the university prescribe a minimum sports activity for each of its students and let it also undertake planned projects to raise the standards of games, sports, athletics and also the physical fitness of the youth. This country has yet to find out a genuine fast bowler in the game of cricket. The University Board of Sports has to chalk out a plan. The plan should provide for improving standards, and earmark sports activity with vigorous exercise, Vyayam, intensive training and physical fitness. Such activities of the youth will enthuse the youth much more. National supremacy in Hockey was tarnished because no good coaching was provided. Similarly in other sports and games, the nation is far behind the rest of the world and university youth must lead the nation by achieving high standards competing with best world standards. This is one channel of youth activity which demands a de novo approach and energetic implementation of a vigorous plan of action.

Similarly, a new approach is needed in cultural activities too. By and large, the standard of cultural activities is fast falling, and these activities generally denote a tendency to cater to the tastes of the low and base sentiments of the audience, barring a few exceptions. Drama has a fascinating capacity to influence the national trends and can assert itself a great deal as an instrument of social change. This can be done by portrayal of the plays on the stage with plots and matter suitable to the needs of the nation. Further, patriotic songs, and the folk music, can fire the imagination of the people to concentrate on national tasks. Scientific music and classical dance will enrich the woefully backward cultural life of the nation. This is very necessary also because man does not live by bread alone. These are, then the avenues on which the youth activities of the university must make their mark. They will enthuse and help the youth very much. They will also help the nation, particularly the poor and the down trodden

(Contd. on page 412)

Problem of Linkange between +2 and +3 Levels

R. G. Misra*

In the new pattern of education of ten plus two plus three it is being visualized that the first degree must be given at the end of fifteen years of education and the standard should be comparable with similar degrees in other countries. This means that our first degree, particularly on the academic side, should reflect a much higher standard than it does at present. There are three possibilities in this regard:

(i) Upgrade the curricula at all the three—high school, intermediate and degree stages of education in individual disciplines.

(ii) Let the high school curriculum be what it is, give greater width and depth to the study of disciplines at the intermediate and degree levels.

(iii) Accepting whatever standard is set for the intermediate level, so widen and intensify the courses at the degree level that the desired objective is achieved.

The other two related issues are:

(iv) How is plus two on the academic side going to be linked with professional and technical courses like engineering and medicine?

(v) What would be the linkage of the vocational and technical courses at the intermediate stage with under-graduate academic courses on the one hand and professional and technical courses on the other?

Let us now examine the implications of each of the above possibilities and issues one by one:

(i) Upgrading the curricula for all the three stages in individual disciplines:

The new pattern of ten-year high school has been accepted by most of the states in the country. It has also been, by and large, accepted that there will be no diversification of courses at this stage. There has been a suggestion that the possibility of introducing two level courses in Mathematics may be considered. In Assam they have already introduced two level courses in this subject. In all the other subjects the syllabi will be the same for all the students. If we consider the fact that science as well as social sciences are going to be compulsory for all and also the fact that the total time available to teach these subjects is going to be almost the same as it used to be for teaching the electives in either group, it is obvious that the same syllabi as are being covered under the electives in individual subjects cannot be covered in half the time. Under science it is proposed to teach physical as well as life sciences to all the students and under social sciences it is proposed to cover History, Geography, Civics, Economics, again for all the students. The reasons for doing so are genuine and quite convincing. Therefore, it would not be fair to expect that it shall be possible to retain the same quantum of knowledge of individual disciplines in the syllabus of science or social sciences. Moreover, general education at the high school level is supposed to be more oriented to life and practical knowledge rather than to the rigours of individual disciplines. The emphasis at this stage has to be on widening the intellectual horizon and equipping the individual with more refined intellectual and practical skills in preference to stuffing the mind with undigested facts and principles related to a particular discipline. Upgrading of curriculum at this stage shall, therefore, be not in terms of mere facts and principles in a particular subject but in terms of greater refinement of intellectual and practical skills and widening the general awareness of students so that those, and they form the majority, do not go in for higher education are equipped with the minimum knowledge and competence so as to be able to adjust to contemporary society and to cope with the challenges of the future.

The next two years are to be devoted to the introduction of the student to a systematic study of the disciplines. Considerable thought is to be given to a re-organisation of the content in different subjects. In the selection and presentation of the content only the essentials need be emphasized and all such facts and principles as are peripheral to the essential core may be included only to the extent to which they can be accommodated without overloading the content to the detriment of the learner. Relevance, worthwhileness and the structure of the discipline should be the major criteria for making the selection of essentials. Some of the content which forms a part of the undergraduate first year may have to be pushed back to the plus two stage.

During the next three years the courses shall have to be made much more intensive than what they are at present. These will have to be articulated with the post-graduate courses which, in their turn, shall have to be further deepened. Then alone it may be possible to raise the standard of our degrees in the international market.

(ii) Upgrading the curricula at the intermediate and degree levels:

In view of the above discussion it is evident that in the new arrangement the study of disciplines will not receive the same emphasis at the high school stage as it does at present under diversified courses of study. Therefore the next five years of education will be crucial in this regard, if at all we are keen to raise the status of university education in the country so as to make it comparable with the one in more developed countries. If the foundations of proper habits of mind and body are laid at the high school stage, if the students begin to appreciate the value of learning on their own and if they are able to acquire the necessary skills of learning to learn, it shall not be difficult to stimulate them to learn much more than what they are learning by the end of the intermediate stage at present. This will require a co-ordinated effort by all concerned with developing the curricula at the intermediate and degree stages. In this situation the problem of articulation between high school and intermediate shall not be so serious as that of the linkage between plus two and plus three. Let us accept that the major objective of high school education is not college preparatory and therefore blind application of the downward filteration theory to the high school curricula is not possible any more. With proper insight and careful handling it should not be difficult to find a way out of the situation arising out of reduced time for the study of individual disciplines on the one hand and expecting more advanced levels of our university degrees on the other. In this connection the principle of concentric organisation of the syllabi and similar other principles of curriculum organisation shall have to be examined afresh.

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*Head, Exam. Research Unit, NCERT.

(iii) Upgrading the curricula at the degree level

This possibility is based on an argument like this. Extending the period of general education by two years implies dilution of courses in individual subjects at the high school stage. Since the next two years belong to the school stage and have to be articulated with the high school stage the chances are that the major portion of what was formerly being covered in three years of elective subjects shall have now to be squeezed into two years with the result that in spite of having added one more year to school education the net result in respect of study of individual disciplines may be either the dilution of prevailing standards or at best their maintenance. This implies that if we are interested in maintaining the existing standard of our degrees, there is no need to introduce any substantial modifications in the curricula at this stage except for making minor adjustments to link the first degree with the intermediate curricula. On the other hand if we are keen to upgrade the university education it has to be done at this stage only without any upward push from below. The intention being the latter the task is rather difficult if concentrated on three years of the first degree only. Therefore the most rational approach appears to be to distribute this effort over five years after high school and establish a closer link between the school and the university as suggested under possibility (ii).

(iv) Linkage of academic courses at the intermediate stage with higher technical and professional courses

At present there are two patterns of higher technical education—one of five years after eleven-years of higher secondary education and another of four years after twelve years of school education. In medical colleges, by and large, admissions are made after the Intermediate or Pre-medical leading to the first medical degree after five years. Admissions to these technical and medical courses are made mostly through selection tests. Now there are eight possibilities in case of engineering institutes giving the first degree after five years of education:

1. Raise the standard of selection tests, cut out one year from the first degree course and yet raise the standard of this degree.
2. Raise the standard of selection tests, cut out one year and maintain the existing standard.
3. Raise the standard of selection tests, maintain the present duration and raise the standard of first degree.
4. Raise the standard of selection tests, maintain the present duration as also the standard of the first degree.
5. Maintain the present standard of selection tests, cut out one year and raise the standard of the first degree.
6. Maintain the present standard of selection tests as also the duration but raise the standard of the first degree.
7. Maintain the present standard of selection tests, cut the duration by one year and maintain the existing standard of the first degree.
8. Maintain the present standard of selection tests as also the present duration and standard of the first degree.

Possibilities (5) to (8) are manifestly absurd and based on the assumption that adding one year to school education is not gòing to make any difference in the quality of the products of the new system. Nothing can be more unfortunate than this, if at all it happens. What is expected is that there will be a substantial change for the better in the courses at the school stage. Consequently engineering colleges should pitch their selection tests at a higher level than the present one. This will also amount to exerting an indirect pressure on the school system to improve matters. This can happen only under possibilities (1) to (4). Of these, possibility (1) is the most challenging one. This will require a fresh look at the present curricula after the courses for plus two stage are prepared. The human problem arising out of this decision shall have to be looked into with proper understanding so that no teacher is thrown out of job on that score. Possibilities (2) and (4) are to be rejected outright because the need to raise standards in all branches of education is recognized at all hands. Possibility (3) is another good solution provided requisite financial support is available. It is very necessary that our engineering colleges go into this issue immediately and lay down the basic requirements for their upgraded syllabi for the guidance of curriculum workers at plus two stage.

Admissions to engineersng colleges with a four-year degree course and medical colleges are even now being held after twelve years of education and, therefore, they are not likely to face any problem of staff being declared surplus. However, in their case as well upgrading of curricula will be necessary.

(v) Linkage of vocational and technical courses at the Intermediate stage with courses in higher education

One objective of emphasizing vocational courses at the intermediate stage is to divert about fifty percent of the students from the academic stream. There can be no quarrel with this objective in so far as it brings education nearer to life and equips our young men to enter some vocation soon after the intermediate. If jobs are ensured many less ambitious students would not go in for college education. Of course, there would be some who may like to come back to the academic stream at the college level or go in for higher technical and vocational education. At present engineering colleges expect a certain level of achievement in science subjects which is reached only in academic courses. In vocational and technical courses there will be greater emphasis on the applied aspects and therefore it will not be possible to impart the same extent of knowledge of pure disciplines through these courses as would be available on the academic side and which would be the requirement for getting admission to engineering colleges. To overcome this difficulty bridge courses may have to be provided, which a student desirous to change the stream from technical to academic or to enter engineering colleges may have to complete before appearing for the selection tests for admission to these colleges or getting admission to science courses on the academic side. Moreever, students passing the intermediate in the technical and vocational stream should not be debarred from appearing at these selection tests, if they so desire. Of course for admission to academic courses where no selection tests are employed it would be necessary to clear the corresponding bridge courses.

Two more points are worthy of consideration, particularly in regard to vocational courses:

(a) Because of the prevailing socio-political atmosphere in the country and vested elitists in education as also the earlier unhappy experiences with regard to vocationalization of school education there is a danger that these courses may again be stigmatized as the ones meant for the rejectees of the academic stream and thereby inferior to them.

(b) These courses may lead into a blind alley.

To dispel these misgivings and to make the vocational and technical courses at the intermediate stage really attractive and worthwhile a number of additional measures shall have to be taken, some of which are listed below:

(a) Provision of advanced vocational courses at the college level well-articulate with the ones at the intermediate level.

(b) Regulation of admissions in keeping with employment opportunities.

(c) Provision of incentives for self-employment.

(d) Keeping wide open the boundaries between academic and vocational courses. This would require a drastic revision in the prevailing approach to curriculum organisation and also breaking down of the artificial dichotomy of technical versus academic institutions.

The above discussion touches just the fringe of the problem of linkage between plus two and plus three. The issue is fairly complex and cannot be resolved in a casual manner on the basis of a superficial analysis of the revised syllabi at the intermediate level. Universities, engineering and medical institutes, Boards of secondary education and the National Council of Educational Research and Training may collaboratively develop curriculum outlines for the intermediate stage. Subsequently the necessary changes in the curricula in higher education may also be effected.

In this fast changing world curriculum revision is a must after every five years or so. It has to be constantly backed by research and developmental effort in curriculum reorganisation. Many progressive institutions imparting higher technical, vocational and academic education are experimenting with new ideas and revising the curricula accordingly. In spite of these laudable isolated efforts, there has been a constant criticism that our courses in higher education are sub-standard, methods of teaching outdated and textbooks a poor imitation of the West. Hardly any attempt has been made to systematise the process of curriculum change through research based developmental activities. At the school stage the National Council of Educational Research and Training, in its own limited way, is trying to influence the school curricula for the better. Whether there is any room for such a machinery at the University level without interfering with the autonomy of the universities is a question worth looking into. The above discussion is puerly theoretical and the logic behind various alternatives proposed is purely based on the writer's experience. How sensible it is requires further probing. In the absence of an appropriate research organisation in this field at the national level there is no possibility of offering any research based alternatives, methods and materials for the consideration of the universities.

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CONVOCATION

Rural Development and Management Education

Dr. P.C. Chunder, Union Minister of Education, Social Welfare and Culture, delivered the convocation address of the Bangalore Institute of Management. The institute was established about five years ago as a part of the programme initiated by the Government of India to develop management education in the country. It is the third management institute to be established in the country and the first in the south. This also happens to be the first institute established in co-operation with the State Government. The institute has a special mandate to prepare the personnel needed by the Public Sector. In addition to the usual postgraduate programmes, the fellowship programme comparable to the PhD degree and several other programmes dealing with important sectors of national life have been initiated.

The Education Minister in his address focussed the problem of rural development in India and its implications for management education. He said that the rural education in India where 80% of the total population lives in villages is of special significance. Rabindra Nath Tagore, who was one of the earliest of our national leaders to initiate work on rural reconstruction, set the right perspective when he said: "Villages are like women. In their keeping is the cradle of the race". Mahatma Gandhi again emphasized the significance of villages and looked forward to a time when our entire land surface would be covered with self-reliant villages, which would be free from poverty and exploitation, and which would also be self-sufficient in at least the basic necessities of life. My party is wedded to the Gandhian ideology in general and to rural development in particular. My government is pledged to rural development as an objective of the highest priority. The most important target of our action are the rural poor; and our developmental efforts will be concentrated on providing them with adequate employment and on ensuring that they will receive at least the basic services in education and health. It is in the realization of this fundamental objective of national development that we need the knowledge of natural and social scientists, skill-building capabilities of thousands of institutions, the dedicated labours of voluntary social workers and members of the bureaucracy, and above all, the enthusiastic involvement of the people themselves.

It is the task of the educational system to complete and consolidate the social and economic changes decided upon by the country. When the nation has accorded the highest priority to rural development, it obviously becomes the responsibility of the entire educational system to orient itself to serve the cause of rural areas and the rural people. Unfortunately, the present educational system has yet to be tuned to this concept. It began in urban areas and was essentially meant to meet the needs of the middle and upper classes. In spite of the expansion and improvement made in the last 30 years since independence, it still retains the basic class and urban character and is ill-suited to the needs of the masses and rural areas. For instance, its curricula and methods of teaching at the elementary stage are largely urban-oriented and meant for the children of the middle and upper classes who can attend schools on a wholetime basis. These curricula are therefore not intimately related to the rural environment in which the village children live; and the insistence on full-time education (which causes no problem for children from well-to-do families) is not suited to the rural children most of whom come from poor families and are required to work at home or outside. Even the school vacations are not related to the agricultural seasons and we often close the schools when the children are free and open them when they are busy on the farms. This leads to tremendous wastage and stagnation. At the secondary stage, the vocational element is weak everywhere. But even in the little vocational education we provide at present (for example, polytechnics which are geared to the modern industrial sector), agriculture and the rural industries find only a comparatively minor place. There is little relationship between higher education and problems of rural life. The experiment of 'rural institutes' did not succeed, by the large; and there are very few attempts to provide a type of higher education which would induce the graduates (whether of liberal acts or of engineering and medicine) to go to work in rural areas. In fact, our existing system of secondary and higher education, instead of sending out trained talent to villages, is actually draining a good deal of potential talent from the villages to the cities. That is why Rabindranath Tagore said that the 'growth' of our towns and cities is not like a healthy muscular development of the body, but like the growth of tumours which indicates a disease. If we mean business by rural development, we will have to change all this class and urban bias of the entire educational system and tune it properly to the needs of the rural areas and of the poor masses. This is the basic task of reconstruction to which all educational institutions, from the pre-primary to the university, will have to address themselves in the years ahead.

It is against this wider social and educational background that we will have to look at the tasks of management education and take measures to relate it, intimately and effectively, to the problems of rural development. How can this be done?

The first point I want to make is that the tasks of rural development have a large managerial component. For instance, in agriculture, the basic issue is water management along with the management of inputs—like good seeds, fertilizers and pesticides—on one hand and of the output—harvesting, storage and marketing—on the other. On the financial side, whether for agriculture or for cottage industries, it is again the management of funds, especially through the cooperatives, that is the crucial factor. Similarly, we need high levels of managerial skills for running large scale programmes of social services like education, preventive and curative medicine, on housing. Government has proposals to decentralize authority and to transfer real and effective power to a considerable extent to lower levels—the Districts, the Development Blocks and the Village Panchayats—and this programme will succeed only if we can simultaneously generate managerial skills of a high order in public administration in the rural areas. I can easily give other examples, but that is hardly needed. What I have said is enough to show the significance of managerial skills in the programme rural development.

My second point refers to the constraints of the training programmes in managerial education for rural development. In the present system, costs-prestige-good employment go together: that is to say, a training programme which has prestige and leads to good employment is necessarily costly. But once the costs of a training programme are placed at a high level, some socio-economic consequences automatically follow. For instance, because of the high costs, we are able to provide only limited facilities. This leads to a situation where the applicants for admission for outnumber the places available. Therefore we prescribe high level criteria for admission which inevitably results in the selection of children of urban or well-to-do parents because it is these children that generally do well in examinations. The net result is that the students admitted to these costly and prestigious courses generally come from urban and well-to-do families; they also go back into the same social class after training; and their services are also utilized, by and large, by the upper and middle classes, mostly in towns and cities. The costs of management education are very high, much higher than in several other sectors of higher education. The consequences are therefore similar: the students of management education are few in numbers, and mostly men. They often come from well-to-do families, mostly urban. They get good employment, mostly in cities and towns, and go back to the privileged sector; and their work is also generally of a character which benefits the better off social groups.

I am making this point for one specific purpose, namely, to highlight the fact that the constraints of management in the rural sector are very different. We need large numbers of managers, including women managers, several times more than for the urban or the modern industrial sector. Most of these mangers will have to come from the poor and undeveloped rural society itself. They will also have to go back and live in the rural society and the remuneration they will ordinarily get will be austere, in keeping with the standards of rural life. They will however need a very high level of skills because the problems they will have to deal with are extremely complex. The implications of these demands are obvious: we must have a large number of institutions for management education for rural areas, and they must function at higher levels of efficiency with lower costs per student. This is the basic challenge and I look up to you, and to the other Institutes of Management, to devise suitable programmes for this purpose.

My third point is equally important and deals with the kind of skills which management of education for rural development has to provide. In rural areas, the scope for 'employment' in the traditional sense of a person being engaged to work in a plant or a factory on fixed wages is very limited. But there is far greater scope for two other categories of employment. The first is self-employment where a person works on his own in some trade or industry or production/service function. The second is where a person works as an entrepreneur of small scale industry where he generates employment, not only for himself, but for a few others as well. It is these two categories of employment that have to be emphasized in programmes of rural development. For this we need, not only the creation of the necessary infrastructure of finance, supply of raw material, and marketing, but also the organization of good management education for self-employment and entrepreneurship in the small scale, village, or cottage industries sector.

It should be possible for management educators of this country to pool their resources and talents together and to develop the prototypes of institutions which are needed to train able managers of rural programmes of all types and in particular, of the cooperative movement which has to become the mainstay of rural financing and development. These institutions will have to admit people of far less formal qualifications but with innate managerial ability. Even the identification of these people is a new and a challenging task for which considerable theoretical and operational work is necessary. The costs of these institutions will have to be kept low but their quality will have to be high. They will have to be trained, not only to work by themselves, but also to involve the people closely and effectively. It will also be necessary to devise sound techniques which they will use to train their trainers so that we ensure high quality of work in the management of all sectors of rural development. If these tasks are attempted on a priority basis within the next few years, the large-scale programmes of rural development which government proposes to launch will have much better chances of success.

Jatti's plea for integral study of man in Universities and Colleges

While presiding over the release of Dr. Kishore Gandhi's book "Issues and Choices in Higher Education", Dr. P.C. Chunder, the Union Education Minister said that education has to play a crucial role in the integration of urban and rural communities as well as in the transformation of the quality of life. The Government is seriously concerned with this problem and is looking forward to the new educational alternatives and strategies for improving the rural environment and making it a more richer place to live in.

Shri B. D. Jatti releasing the book of Dr. Kishore Gandhi

It is important that education is made more responsive and relevant to the aspirations and needs of the people. The policy regarding 10+2+3 is being reviewed. The entire educational curriculum needs to be modified. In the name of raising standards, the curricula were being increased and made bigger than ever before. The existing educational programme also ignores the large variety and plurality of this country where education to be meaningful has to be closely related to the local environment. The attempt at creating little memory machines out of all our children is wrong, educationally, psychologically and socially. There will have to be a greater emphasis on work experience and vocationalisation. A good deal of attention will have to be paid to the planning and organisation of university courses.

It is unfortunate that the broad pattern of university education is still in the nature of an exotic plant. Changes should be introduced on the basis of our own indigenous thinking after taking into account what is happening around the world. We should provide more facilities to strengthen the programme of elementary education, liquidation of illiteracy and equilisation of equational opportunities and transforming the educational system to become a powerful instrument of socio-economic transformation. Indian cultural values should be given a priority in our educational system.

Dr. Chunder said that Dr. Gandhi's book has focussed on these issues. It provides detailed analysis of various components of higher education supported by statistical data which would be found useful to the educational planners and administrators in formulating the new eduational policy.

Shri B.D. Jatti while releasing Dr. Gandhi's book said that he has empirically maintained that it is perhaps only through the right kind of education that we can transform the quality of life and create a balanced human environment for our teeming millions who live under the spell of deprivation and suffer from the individual and social exploitation and various other economic constraints. Thus the greatest challenge before all of us and especially the educational community is how to improve the impoverished rural environment and rectify the imbalances between urban and rural communities. Our villages have traditionally given the basic strength and stability to this country and are responsible for its unbroken continuity. Rural India needs to be made a richer and more attractive place to live in and to offer better opportunities to its educated youth. The current dichotomy between the urban elite and rural folk has to be replaced by a more meaningful integration of urban and rural communities. Evidently the harmonious development of the rural sector offers the greatest opportunities and challenges to technologists, engineers, doctors, social scientists, educators and policy-makers. In this context it is appropriate to recall the prophetic words of Swami Vivekananda. He said that "so long as the millions live in hunger and ignorance I hold every man a traitor who having been educated at their expense pays the least heed to them." It would also call for a revision of educational priorities, its goals and objectives. The role of education in the modernisation of agriculture, in the organisation of small scale industries, in the decentralisation of political economy and in the generation of new values and attitudes in the rural community is quite crucial. But only the right type of education oriented towards the needs and the aspirations of the rural people can mobilise the productive capacities of the rural environment. It must have the backing of Indian cultural values, symbols and enduring myths. A flash-back at the history of the freedom movement would show that the entire nation movement was built on the solid and qualitatively rich foundations of Indian cultural values. Thus the basic question before us is how to integrate our cultural values in the educational system and structure for creating a valued future and the new merging world orders.

To put it more explicitly, the focus should be on both economic regeneration and spiritual rejuvenation.

The second issue which directly flows from the above argument and is both the cause and consequence of our major societal problems, is how to become an integrated human being in contemporary society. This is an issue which is disturbing many sensitive thinkers. Cutting across extreme specialisation, the new approach must present a total view of life. We must highlight in a critical and creative way some of the perennial values of Indian culture, its integrative, humanistic and progressive ideals for building a cohesive and viable nation. Let me spell out tentatively some of the broad principles of this approach. Firstly we must know the meaning of life and its purpose. Education is not merely confined to passing of examination nor is it a passport for securing a job but it must help us in discovering the meaning of life. Secondly, we must study man in his totality and look at his origins, nature, abilities, characteristics, relationship with others and his place in the universe. Thirdly we must study man's relationship with the environment and all the sentient beings. Fourthly, in addition to the history of ideas and the modern science, including science and technology we should include in our courses the science of awareness. Fifth, Indian students must discover the cultural identity of their country and imbibe a love for their motherland and an attitude of sacrifice, devotion to work ethic, service to community and love for humanity. These are some of the issues to which the academic community has to address itself and look forward to a solution after careful research and study.

Youth Activities in University

(*Continued from page 405*)

whose efforts to come out of their low plight need encouragement and inspiration by such youth activities, amidst them and which will lift them up to experience the bracing climate of cultural renaissance.

There is one more pattern of activity of the youth which the universities must vigorously pursue and that is social service. The need and the scope of such activities hardly need any stress, much less emphasis and this is one type of activity which will greatly meet with the supreme need of the nation. It is not essential that this could be done only through state sponsored NSS activities. Irrespective of them, all university units can adopt a village, plan out a four year plan of development for the adopted village and work in the same village for the entire period continuously. The youth will have thereby involvement and the consequent satisfaction of a participant in the endeavour of national regeneration. The village will be enriched by four years continuous efforts of the youth. There will be a mutual affinity and confidence. The only concomitant is a proper plan of action which can be determined in co-operation with panchayat and district and state government officers, public leaders and social workers. It is experienced by universities undertaking such activities that these agencies lend financial support also for various projects and an energetic and meaningful programme of village service has the potential of a significant transformation of the rural scene within a short period of four years. No further details need be given in this brief paper since they can be worked out by each university and by each of its units. But the problems of the villages are uniform and common almost all over the country and as such a uniform and common programme of action will have a uniform impact of the universities on the villages. Here the youth will experience a great satisfaction from their involvement in such beneficial projects and each university must adopt this youth activity on a very large scale, without any delay.

A brief reference to holding summer and winter camps of the youth by the universities may also be made. The advantages of camp life are too obvious to need any enumeration. Such camps ought to provide enough scope for physical, cultural, social, academic, intellectual and serviceful activities for the youths. Such camps also make the youth more sturdy, more tolerant and more responsible also. The camps can be financed by colleges, campers, charitable trusts and if possible, state government, youth boards, social service agencies and by the universities themselves. Holding a large number of such camps during vacations or even during long week-ends will completely change the atmosphere of university life and a new wave of enthusiasm and hope and creative outlook will replace the present day gloom, lethargy and inertia on the part of the university youth.

Universities need undertake activities for its youth on a very large scale and the availability of finance is always on a limited scale. This riddle can be solved by a determined effort on either side, *viz*., the university and financing agency. Plenty of money can be saved for such projects by a strict economy in expenditure on establishment, expenditure on travelling and allowances, telephones, telegrams and posts as well as stationery and furniture and several other items at the university level. On the other hand state government should loose the strings of purse for such nation building and productive activities of the university youth. Perhaps the usually lapsing part of the budgetary grants of each university will be more than adequate for the purpose. Also a tactful effort with proper understanding and perserverance on the part of the university officers to secure additional government grants will serve as a magic key and even if initially, financial difficulties may block some helpful activities ultimately, finance should be available for all good projects. There is no doubt that a good cause rarely suffers because of want of finance, and if there is a will, there is bound to be a way to get things done. □

CAMPUS NEWS

Bangalore seminar criticises hasty semesterisation

(From our special correspondent)

The Chancellor of Bangalore, Mysore and Karnatak Universities has asked the Vice-Chancellors of the three universities to review the working of the semester system so that necessary corrections or improvements could be introduced from time to time. He assured the students who met him that all genuine difficulties in the operation of the system introduced recently would be looked into and corrective steps would be taken. The students have been demanding scrapping of the faulty semester system for quite some time. The Chancellor pointed out to the students that the system had been widely recognised as a good means of imparting and testing absorption of knowledge. The University Grants Commission was in its favour and it had been introduced in the universities at the undergraduate level only recently. So it will not be wise to scrap it straightway without giving it a fair trial. The Vice-Chancellor of Bangalore University has also assured the Students' Action Committee that the university would constitute a committee of experts to go into the merits and demerits of the system and the students will also be represented on this committee.

The system was however subjected to sharp criticism by the teachers and students at a recent seminar organised by the Bangalore University unit of the Students' Federation of India. They questioned the validity of the system and its appropriateness in the Indian context and the country's educational requirements. They pointed out that what had been attempted was only a half-hearted endeavour with the main and important features of the system missing. The vital features of the system, according to them, were class-oriented work, internal assessment and continuous valuation. All these, in their opinion, were absent in the system introduced in the universities. The system required a class strength of not more than sixty but this had not been adhered to by the colleges where the average strength of a class was around 170.

Another important feature of the system was reserving a minimum of 30% marks for internal assessment. But as introduced only 10% of marks were reserved for it. Individual and personal attention, the speakers said, was essential for the success of the system. But what they found in the colleges was a big difference in the student-teacher ratio. The decision to introduce the semester system was taken by the Vice-Chancellors and the opinions of the elected representatives of the university bodies such as Academic Council or the Senate were not properly ascertained. So the system had created an "atmosphere of distrust" both among teachers and students.

The Karnataka unit of Akhil Bhartiya Vidyarathi Parishad has also demanded a total review of the semester system as introduced in the State universities. In a resolution it said the system had many "loopholes and contradictions". Instead of elevating the standard of education, it pointed out, the system would further lower it. Some of the serious drawbacks of the system were that the total abolition of external assessment in practicals was an unhealthy step and complete dependence on internal assessment as bad as the previous system, though science subjects required a weightage for laboratory experience. Bangalore had given only 10% marks while the new pattern was introduced for the day college students no change was contemplated for those studying in evening colleges and external students and yet all these categories got the same degree and the increased instruction time as a result of the new system left practically no time for a student for co-curricular activities.

BHU provides clinical legal education

The Law Faculty of the Banaras Hindu University has started a programme of clinical legal education which will provide free legal aid to the poor and the weaker section of the society. This programme has also been incorporated in the curriculum of the Bachelor of Law Degree from the current session.

The clinical legal education will provide oppprtunity to the law students for working with the cases in the courts. At the same time a socio-legal service would also be made available to the poor. Under this programme 25 law final year students and their teachers will contribute to the task of providing legal advice. In addition they will render legal service to the weaker section of the society by way of arbitration, conciliation and if necessary by litigation. The clinic also proposes to organise further programme of community education to promote awareness among the under-privileged sections about their rights under the law.

Prof. R.P. Dhokalia, and other members of the Faculty of Law are taking keen interest in the working of the clinic. A separate unit for the legal aid clinic has been created in the faculty.

Foreign collaboration for Madras academic programmes

Dr. Malcolm Adiseshiah, Vice-Chancellor of Madras University said that courses in the university with applied aspect might attract considerable international assistance. The Department of Leather Technology of the University was already getting grants from the UNESCO and the United Nations Development Programme. Unesco was also likely to support the crystallography programme in the department of biophysics. Similarly the World Health Organisation would be helping the postgraduate institute of basic medical sciences. Apart from these programmes, the Madras University has also entered into bilateral assistance arrangements with the United States in respect of the Department of Sociology and Anthropology and with the United Kingdom in respect of the Department of English.

The university is cooperating with the Madurai University in the running of local centres for its open university programme. More than forty affiliated colleges of Madras University would soon provide facilities for opening local study centres on behalf of Madurai University.

Calcutta for 2-year programme

The Academic Council of Calcutta University at its last meeting decided to reintroduce the two-year degree course both for the pass and honours students. The university plans to implement the decision from the next academic session starting in 1978 when the first group of students will successfully complete the 11-12 stage of education. The question of restructuring of the undergraduate degree courses has been under debate for quite some time. Different suggestions were made. One group of academics was strongly in favour of retaining the three-year degree course while the other group favouring the re-introduction of the two-year honours courses was equally vocal. The matter was referred to the Vice-Chancellor who constituted a committee to consider all aspects of the question. As no satisfactory solution could be found, the matter was finally debated in the Academic Council and the above decision was taken on the basis of a secret ballot.

Mr. Sambhu Ghosh, West Bengal Minister for Higher Education has called a meeting of the Vice-Chancellors of seven universities in the State to discuss the feasibility of reverting to the two-year degree programme in place of the existing three-year degree course. He feels that the universities should follow a uniform pattern of education in the State.

Colleges challenge capitation fee order

The management of four private engineering colleges in Karnataka have moved the High Court regarding the constitutional validity of the recent Government order regulating the admissions and collection of capitation fee in the engineering colleges. Writ petitions have been filed for quashing the government order of June 10, 1977. The Karnataka Engineering Colleges and Technological Institutes Rules 1977 which were promulgated on June 13, 1977 were brought into force from this academic session.

The impunged rules prescribe the maximum intake in respect of each branch of specialisation and quota for all aided and unaided private engineering colleges. The order of the government also specifies the maximum capitation fee that could be collected by the private engineering colleges. The petitioners—Gukula Education Foundation, the Siddaganga Education Society, the Rashtriya Shikshana Samithi Trust and the Manipal Engineering College Trust—have not been receiving any aid from the government but depend on donations from the public, students and their parents for the maintenance of the colleges they have been running. They have complained that the impunged orders have taken away their right to select students of their choice in respect of certain percentage and even in respect of the remaining percentage the government had imposed restrictions on the receipt of capitation fee and had thus virtually taken over the day-to-day administration of the colleges. The petitioners have further urged that the government orders are unconstitutional and the Court has been asked to declare them as null and void. A prayer has also been made to restrain the government and Director of Technical Education from enforcing them.

Madras Physics Department plans jubilee symposium

The Tamil Nadu Government has provided a special grant of Rs. one lakh to Madras University for its Department of Physics to conduct an international symposium in connection with its silver jubilee celebrations. The symposium would be held in the first week of January 1978. According to Prof. R. Srinivasan, Senior Professor in Physics Department, the symposium would be sponsored by the International Union of Pure and Applied Biophysics, Department of Science and Technology, the Indian National Science Academy, the Council of Scientific and Industrial Research and the Bhabha Atomic Research Centre. Eminent scientists including three Nobel Laureates, Prof. D.C. Hodgkin of the U.K., Prof. Kendrew of Germany and Prof. Ochoa of the USA are likely to participate in the symposium. The National Science Foundation of the USA and the Royal Society of the U.K. were likely to sponsor a few scientists to the symposium.

A Winter School of lectures on 'current trends in biomolecular structure' by visiting experts is proposed for the week immediately following the symposium for the benefit of younger scientists all over the country.

MBA course at South Gujarat Varsity

The South Gujarat University is organising a two-year full-time postgraduate course in management leading to MBA degree from this academic session. The programme will be conducted by the Department of Business and Industrial Management. Initially it will be a four-semester course with summer experience of ten weeks between the second and third semesters. The programme would also provide optional papers from the functional areas of Production Management, Marketing Management, Financial Management and Personnel Management. Management of Financial Institutions, Management of Agricultural Institutions, Management of Cooperatives and Management of International Bussiness would be the other areas of study. Every student will be required to complete a project work in any of the functional areas and another project from the sectoral area according to his own choice. The emphasis on these courses would be laid throughout on Management of Public Enterprises and Development of New Enterprises.

Summer institute in Polymer Chemistry

The Sardar Patel University organised a summer institute in polymer chemistry for college teachers during the summer vacations. Of late polymer chemistry has assumed great importance both at the graduate and post-graduate levels. It was therefore necessary to provide instructions to the teachers in theory and training in practicals of this important area of Chemistry. The focus of discussion was mainly on the following:

1. Fundamentals of Polymer Synthesis
2. Theories of Polymer Solutions
3. Confingurational Statistics of polymer chain
4. Kinetics of Crystallization of Polymers
5. Thermal properties of Polymers

As many as thirtyfour teachers came from various universities.

University institutions in the Commonwealth

The Association of Commonwealth Universities brings out a number of useful documents every year. The bulletin listing university institutions in the commonwealth is however very popular with the admission offices throughout the commonwealth universities, as it gives not only the names and full addresses of the executive heads of universities but also lists the officers to whom general enquiries could be addressed by students. The total number of institutions listed is 297. The member universities can obtain the bulletin free of cost from the Secretary-General, Association of Commonwealth Universities, 36 Gordon Square, London WC1H OPF.

Another Mysore innovation

Mr. D.V. Urs, Vice-Chancellor of Mysore University proposed to embark on another innovation in the field of education. He intends inviting post-graduate college teachers to launch new courses of study. Each faculty member who offers to launch new courses would be given an incentive of Rs 2,000. Each one of them would get a chance to start new courses once in two years. These would be additional courses and it was entirely left to the students to accept or reject them. In clarification, the Vice-Chancellor said that a Political Science teacher could start a course on Mysore City Government or a philosophy professor on Shintoism. In the traditional system there were no facilities for in-depth studies, though there were people with the necessary intellectual equipment for this type of work. This innovation is necessary as the traditional courses had reached a stage of morbidity and stagnation. He proposes to dicusss the scheme at the next meeting of the University Post-graduate Council. The scheme to offer incentive for 100 new courses would initially cost a sum of Rs. two lakhs to the university.

UGC offer to help Calcutta campuses

The University Grants Commission has offered assistance amounting to Rs. fifty lakhs to Calcutta University for acquisition of land for the development of multi-campuses provided the matching share is contributed by the State Government.

NCST reconstituted

The National Committee on Science and Technology has been reconstituted with Dr Atma Ram, former Director-General of Council of Scientific and Industrial Research, as its Chairman. The other members are: Dr. F. Ahmed, Commissioner of Geology and Mining in the Jammu and Kashmir Government; Dr. J.P. Chawla of the Chawla Consultancy, New Delhi; Dr. M.N. Dastur of M/s. Dastur and Company; Prof. M.B. Desai, Professor of Agricultural Economics in the University of Baroda; Dr. P.C. Mehta, Director, ATIRA, Ahmedabad; Mr. Shriman Narayan, Chairman, Gandhi Smarak Nidhi: Dr. B. Nag, Managing Director, West Bengal Electronics Development Corporation; Dr. A.K. Saha, Professor of Physics, Institute of Nuclear Physics, University of Calcutta; Dr. H.N. Sharan, Director, Bharat Heavy Electricals Limited; Dr. M.M. Sharma, Department of Chemical Technology, University of Bombay; Dr. D.P. Singh, Vice-Chancellor, Agricultural University, Hissar; Dr. Sukhdev, Director of Research, Malti-Chem, Baroda; and Dr. S. Varadarajan, Chairman, Engineers India Limited, New Delhi.

Following are the ex-officio members: Secretary, Department of Atomic Energy; Director-General, Council of Scientific and Industrial Research; Secretary, Ministry of Communications; Director-General, Geological Survey of India; Director-General, Indian Council of Agricultural Research; Director-General, Indian Council of Medical Research; President, Indian National Science Academy; Secretary, Department of Industrial Development; Chairman, Khadi and Village Industries Commission; Director-General, Defence Research and Development Organisation; Secretary, Department of Science and Technology; Secretary, Department of Space; and Chairman, University Grants Commission.

The committee will be an apex advisory body which will formulate and implement the Government policies on science and technology to secure for the people the benefits that can accrue from application of scientific knowledge. It is also required to take measures to ensure proper coordination and cooperation among agencies, organisations and institutions connected with science and technology, both governmental and non-governmental at the national and international levels. It will take measures to improve and expand the quality and quantity of scientific and technological research in industrial undertakings and private institutions. One of the functions assigned to the committee is determination of priorities, including conservation of natural resources, speedy development of rural areas, enhancement of the quality of life of people and fulfilment of their basic needs.

UGC provides special grants for five centres

The University Grants Commission has a scheme through which selected university departments are provided special grants for their development. At present there are thirty such departments recognised by the Commission. The Commission proposes to bring thirty more departments under this scheme.

The department of Physics, University of Rajasthan and that of University of Roorkee, the Department of Chemistry of Allahabad and Sardar Patel Universities and department of Botany of Patna University have been selected this year for providing grants under the special assistance programme. In the case of Rajasthan University the assistance will be for a major research project on material sciences and the grant will be initially for three years. The assistance in the case of other universities will be up to the end of sixth plan period.

New UGC Associates

According to the recommendations of the University Grants Commission there would be three categories of research associateship A, B and C carrying consolidated monthly emoluments of Rs. 1,000, Rs. 1,200 and Rs. 1,400 respectively. The research associates which are for post-doctoral research will be awarded initially for a period of three years which can be extended by another two years. A certain number of these associateships have been assigned to the universities. The UGC directly awards associateships up to the maximum of fifty at one time. The Commission is also considering a proposal for the award of associateship in Engineering and Technology.

Meanwhile, the UGC has agreed in principle that national associateships up to five per institution may be allocated to specialised research institutions outside the university system for direct awards.

Diploma in strategic studies

The Andhra University has accepted the proposal to start a postgraduate diploma in strategic studies from the current academic session. The university senate at its meeting held recently decided that the diploma be started in the Politics and Public Administration departments. The University Grants Commission has also approved the starting of the courses and has promised to provide adequate grants for this purpose.

A proposal to start a training programme for the deck cadre and engine cadre from the current academie session has also been approved, The courses will be started in the engineering colleges in collaboration with the Dredging Corporation of India. Initially twenty students would be selected for the programme.

New courses at HP Varsity

The Academic Council of Himachal Pradesh University at its meeting held recently approved the proposal for starting Master's courses in Sociology, Geography, Public Administration, Ancient History, Culture and Archaeology, diploma in journalism, diploma in foreign languges and coaching classes for competitive examinations. A suggestion for starting a short course of three months in education technology for the benefit of teachers was also accepted.

In the medical faculty the Council approved the proposal for starting diploma courses in anaesthesia, radiology, obstetrics and gynaecology, paediatricts, ENT and V.D.

PU teachers urge protection

A sizeable number of Patna University Teachers have urged the university authorities to provide adequate security during the invigilation work in view of the growing lawlessness and alleged show of force by the examinees.

Dear Subscriber

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Rural orientation for science plan

The science and technology plan is likely to be revised to give special emphasis to rural development.

The newly constituted national committee on science and technology has taken up the work of drafting a technology policy statement to emphasise the role of technologists and small technicians in the implementation of science and technology plan. Dr. Atma Ram, Chairman of the committee, said in New Delhi that the technicians had been ignored all these years. They were the key to village development and so needed encouragement. He said that instead of going in for sophisticated science on a large scale, simple science which will increase production and productivity of village technician and artisans will be emphasised in the proposed revised science and technology plan.

The Department of Science and Technology has already selected twenty districts for rural development. The committee will soon examine the projects proposed to be taken up in these districts to give them proper policy orientation. The proposed technology policy statement will rectify this lacuna so as to make them an important link in production process. The The Gandhian objectives of achieving village Swaraj could be achieved only if these people are given recognition and status along with other scientists. For this, basic education had to be reintroduced on a large scale in the rural areas to provide employment to the educated youth. Technology education institutions should be linked to actual production centres so that students earned a living as they received training.

Dr. Atma Ram said that it was not the eminence in science that contributed to rise in production and economic strength of a nation but proficiency in utilising technology to increase production. Britain in spite of having larger number of noble laureates was lagging behind Japan in production.

Basic changes in educational policy suggested

(*Continued from page 403*)

of experience gained. The occasion should also be utilised for ensuring that the code of conduct is drawn up in a concrete and detailed form.

(iv) The code of conduct should be uniform for all universities. If there are variations it would create all kinds of problems. While reconsidering the question at this stage this aspect of the problem should be given special attention.

(v) An important part of the proposed code of conduct should be to ensure that the work of every single teacher, including professors was periodically assessed in terms of his/her output, consistency, quality, and his/her own intellectual growth. In this connection the committee strongly suggested that no professor should be appointed on a permanent basis. Instead all professors should be appointed on contract to be renewed every five years. In the situation as it prevailed in the universities today, nothing was more important than to ensure that the quaility and performance of professors was satisfactory in every way. This proposal was expected to go a long way ensuring higher standards of performance.

(vi) For obvious reasons such a code of conduct should be drawn up by a committee consisting of vice-chancellors, educationists and teachers.

(vii) It needs to be emphasised that a code of conduct is different from service conditions. Hours of work and such other matters, for instance, come more under the category of service conditions rather than a code of conduct. While reconsidering the issue this aspect may be given due attention.

The report of the Planning Commission on the study of the pattern, procedures and policies of government grants to the institutions of higher education was also considered. The following suggestions were made.

(i) A system of incentive grants should be adopted. In seeking to determine the basis of the grant, results obtained in the college should not be the sole criterion. Other aspects of work, such as, interest in other activities, particularly sports, NCC, NSS, faculty improvement programme, intensive use of the library and the atmosphere for work and commitment to quality should also be given due weightage. Concretely speaking, something like 25% of weightages should be given to these various items of activity.

(ii) The committee was not in favour of regional offices of the UGC. It was felt that this would impede decision making rather than expedite it,

(iii) The committee was not in favour of state level UGCs for the present. While in theory, there was a good case for such a step, in actual practice the experience so far had not been very happy. The matter may be re-examined however after some time.

(iv) In most universities fees had remained stationary for the last 30-40 years. Meanwhile the value of money had depreciated greatly. There was a good case therefore for increasing the fees by something like 50%.

At the same time however it was important that more scholarships should be made available to poor students, particularly to women and members of backward communities. It was equally important to streamline the procedure for grant of scholarships. In quite some cases decisions were taken late or payments were unduly delayed. This caused hardship to students and should be avoided.

(v) The committee was not in favour of making postgraduate education exclusively the responsibility of the UGC. Because of the size of the country this would lead to excessive centralisation and create problems. The proposal to make education a concurrent subject was likely to involve the Centre in a greater measure of responsibility and this was likely to prove helpful as far as postgraduate education was concerned.

THESES OF THE MONTH

A list of Doctoral Theses Accepted by Indian Universities

SOCIAL SCIENCES

Psychology

1. Dhar, Bani. A study on the personality factors and child rearing attitudes of the parents of schizophrenics. University of Calcutta.
2. Sinha, Kedar Prasad. A comparative study of recidivist and non-recidivist criminals. Bhagalpur University.
3. Veena Mohan. Angle-of regard terrain cues and intensity of light as determinants of moon illusion. Meerut University.

Anthropology

1. Basu, Mahadebprasad. Five muslim groups of Calcutta: A study of their somatic types and affinites. University of Calcutta.
2. Dey, Kripa Sindhu. Measurement of human fertility in Assam. University of Gauhati.
3. Ghosh, Bibhutibhusan. Socio-economic correlates of fertility of Angami women. University of Calcutta.
4. Goswami, Binod Behari. The Mizo unrest — A study of polticisation of culture. University of Gauhati.

Sociology

1. Bhu Dev Singh. Alienation among factory workers with reference to factories in Meerut District. Meerut University.
2. Masihi, E.J. Trade union leadership in textile industry of Ahmedabad. Gujarat University.
3. Sharma, Surjan Singh. Continuity, discontinuity, replacement and action-set of power-position holders in rural area. Meerut University.

Political Science

1. Deshpande, Jayashri. U.S. policy in Indonesia during the Eisenhower administration. Jawaharlal Nehru University.
2. Fazli, Manzoor Ahmed. Socialist ideas and movements in Kashmir from 1919-1947. University of Kashnir.
3. Gupta, Madhu, B. The role of State Governors in India, 1951-72. Meerut University.
4. Har Sharan Singh. Emerging pattern of leadership in panchayat raj: A study of Saharanpur District in Uttar Pradesh. Meerut University.
5. Jain, Ranvir Singh. A relation between the Secretary of State for India and the Governor General of India in Council, 1858-1919. **D. Litt.** Vikram University.
6. Khare, Madan Mohan. The economic and social council of the United Nations at work. Vikram University.
7. Ravishankar Singh. Bharatiya ganrajya main rajyapal (Hindi). Awadhesh Pratap Singh University.
8. Sinha, Shantha. Maoists in Andhra Pradesh. Jawaharlal Nehru University.
9. Smadhiya, Narender Kumar. Bharat mein rajya karyapalika ke opcharik evam vastawik pramukhon kee bhoomika tatha sambandhon ka alochanatmak adhyayan (Hindi). Vikram University.

Economics

1. Adhoni, Mohammed Abbas Abdur-Rab. Absenteeism in the selected industries of Karnataka State. Karnatak University.
2. Chavda, V.K. The study of some aspects of industrial estates programme with special reference to Gujarat. Gujarat University.
3. Chawla, Krishan Lal. A cost benefit analysis of mass rapid transit system for Delhi. Meerut University.
4. Dev Raj. Shipping and shipbuilding industry in India since 1947. Meerut University.
5. Dixit, Devender Kumar. Uttar Pradesh main karagar udyogon ka arthik adhyayan (Hindi). Kanpur University.
6. Guha, Sabita. Economic assessment of roads with a case study in West Bengal. University of Calcutta.
7. Kashyap, S.P. Regional input-output models: A case study of Gujarat. Gujarat University.
8. Mehta, S.S. Productivity, production function and technical change in some Indian industries. Gujarat University.
9. Prasad, Asha. Labour in silk industry of Bhagalpur. Bhagalpur University.
10. Sulochana, T. Labour in Indian Railways since 1951. Osmania University.

Education

1. John Pushpita. Some socio-personal attitudes related to high and low academic performance of secondary school leavers. University of Kerala.
2. Patel, Arvindbhai Dahyabhai. To study achievement motive, axiety performance of the university examination and socio-economic status of student teachers in the colleges of education in the State of Gujarat. Sardar Patel University.
3. Shah, Kishorlal Maganbhai. A study of the characteristics of innovative teachers of secondary schools in the State of Gujarat. Sardar Patel University.
4. Sharma, Pramod Chandra. Developing a course in physics for higher secondary schools. Meerut University.
5. Umrajwala, Virbala Ramesh. Construction and standardisation of reading readiness test for the children of Central Gujarat. Sardar Patel University.

Commerce

1. Agrawal, Ved Prakash. Role of growth centres in industrial development with special reference to Modinagar. Meerut University.
2. Panday, Bachcha Lal. Industrial relations in the non-coal mines of Bihar. Bhagalpur University.

Management

1. Jha, Awadh Kishore. The working of Industrial Finance Corporation of India with special reference to industrial growth. University of Bihar.
2. Jogendra Prasad. A study of the impact of management development programmes in a selected public sector undertaking in India. University of Delhi.

HUMANITIES

Philosophy

1. Safia Bano. Maulana Azad's reconstruction of religious thought in Islam. Osmania University.
2. Sharma, Sangam Lal. Ramcharitmanas aur vedant darshan (Hindi) Awadhesh Pratad Singh University.

Fine Arts

1. Jain, Kamla. Yashodhar-charitra kee sachitra paandolipiyon ke chitron ka ek adhyayan. Meerut University.

Literature

English

1. Kundu, Ranjeeta. Christopher Isherwood as a novelist. Bhagalpur University.
2. Ramanathan, S. Aspects of C.P. snows' novels Gujarat University.
3. Sinha, Kamta Prasad. The social and philosophical thoughts in the plays and prefaces of G.B. Shah. Bhagalpur University.
4. Surendra Narayan. R.K. Narayan as a novelist. Bhagalpur University.

Sanskrit

1. Bhatt, Naresh Bhagvatishankar. Shri Varah Puran: Ek adhyayan. Sardar Patel University.
2. Dogra, N.K. Rajtarangini: Ek sanskritik adhyayan. Gujarat University.
3. Karunakaran, R. The concept of sat in Advaita Vedanta. University of Kerala.
4. Majumdar, Rani. Asvins in Rigveda. Sardar Patel University.
5. Mukhopadhyay, Sukhamay. A study of the poetry of Kalidas and Shakespeare with special reference to their recognised master-pieces, the Sakuntala and Hamlet. University of Calcutta.
6. Munshi, Kshamaben. Shri Parsvana thacarita Mahakavya of Sri Padmasundra Suri. Gujarat University.
7. Namburi, E. Easwaran. Balaramabharatam: Its contribution to Indian dance and drama. University of Kerala.
8. Soni, Shatrupa. Siddhanta-Lesa-Sara Samgraha: A study. University of Delhi.

Hindi

1. Ahuja, Adarsh. Hindi aur Marathi nirgun-kavya mein Guru ka swaroop aur Mahattva. University of Delhi.

2. Ansari, M.A. Swatantryottar Hindi natak: Kathya aur shilp. Gujarat University.

3. Arya, R.P. Dayanand Saraswati: Jiwani tatha unkee Hindi rachnayen. Bhopal University.

4. Dabas, Risal Singh. Aadikaleen Hindi sahitya ka shabdbhandar. Meerut University.

5. Ganesa, Iyer. M. Aadhunik Hindi aur malyalam kavita mein prem aur soundarya: Ek tulnatmak adhyayan. Meerut University.

6. Goel, Murari Lal. Dwedi-Yugeen-Gadya-Sahitya ke Paripreksh mein Pandit Madhav Prasad Misr ke gadya sahitya ka adhyayan. Meerut University.

7. Goyal, Maya Devi. Padmakar kee bimb yojna. Meerut University.

8. Gupta, O.R. Samasyamulak upanyaskar Bhagavatiprasad Vajpayi. Gujarat University.

9. Joshi, Chandra Kanta. Premchand Parvarti aadhunik hindi upanyas main nayak ka sahitya shastriya vivechan. Meerut University.

10. Kad, Shukla. Hindi Sahitya ke reeti kaal ke pramukh kaviyon ka shringar rus nirupan. Meerut University.

11. Khanna, Savita. Hindi kee madhyayugeen shringar kavya-parampara mein Vidyapati ka yogdaan. Meerut University.

12. Misra, Ravindra Nath. Hindi savi sansthao ka shodhkarya mein yogdaan. Meerut University.

13. Parashar, Kedar Nath. Hindi ekankiyon mein hasya-vyang: Vishesh kar Dr. Ram Kumar Verma ke ekankiyon ke sandarbh mein. Vikram University.

14. Rohtgi, Mithlesh. Hindi kee nayee kahani ka manovaigyanik adhyayan san 1955 se 1970 isvi tak. Meerut University.

15 Sharma, Devendra Kumar. Radhaballabh Sampradaya ke kaviyon ka roopvarnan. University of Delhi.

16. Tiwari, Indira. Tulsi sahitya ke darshnik srot. Osmania University.

17. Tripathi, Rajendra Prasad. Kanpur ka adhunik Hindi natya sahitya san 1850 se aaj tak. Kanpur University.

18. Vidula. Bhagwati Charan Verma: Sahitya aur jeevan darshan. Meerut University.

Bengali

1. Nath, Purnendunath. Development of Bengali prose in the context of translation and discourse of law in Bengali. University of Calcutta.

Assamese

1. Origin and Development of old Assamese prose. University of Gauhati.

Tamil

1. Elayaperumal, M. Grammatical notes on sangam literature. University of Kerala.

Telugu

1. Balaraju, R. Sita Ramanjaneya Samvadakavyamu: A critical study. Sri Venkateswara University.

2. Rayanam, G. Rama Krishna. Pingali Surana and his works. Osmania University.

Geography

1. Shrivastava, Prem Chandra. Saharanpur — A study in urban geography. Kanpur University.

History

1. Bhaumik, Rabindranath. The system of moral training of students in Ancient India. University of Calcutta.

2. Chakrabarti, Bhubaneswar. History of Malla Dynasty of Vishnupur from earliest times to 1850 A.D. University of Calcutta.

3. Elizabeth, Merklinger. Indo-Islamic architecture of the Islamic Kingdoms of the Deccan. University of Delhi.

4. Iqbal Jehan Begum. Sultana Raziyyah and her predecessors. University of Calcutta.

5. Shrivastava, Prem Shankar. A study on (nying) Nying-ma-pa-sect. Visva-Bharati.

CURRENT DOCUMENTATION IN EDUCATION

A list of select articles culled from Periodicals received in AIU Library during July, 1977

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EDUCATIONAL PSYCHOLOGY

Hooper, Richard. "How teachers stop worrying and learn to like computers". *Times Higher Education Supplement* (296); 24 June 77: 10.

EDUCATIONAL SOCIOLOGY

Althach, Philip G. "In search of Saraswati: The ambivalence of the Indian academic". *Higher Education* 6(2); May 77: 255-75.

Neville, Adam. "Managing things as training in managing people". *Times Higher Education Supplement* (299); 15 July 77: 10.

EDUCATIONAL ADMINISTRATION

Alm, Kent G., Ehrle, Elwood B, and Webster, Bill R. "Managing faculty reduction". *Journal of Higher Education* 48(2); March-April 77: 153-63.

Azad, J.L. "Academic and financial management of higher education". *University News* 15(13); 1 July 77: 344-7.

Bhandari, Arvind. "Autonomous Colleges: A cut above the rest". *Youth Times* 6(8); 8 July-21 July 77: 39,41.

Rood, Harold J. "Legal issues in faculty termination: An analysis based on recent court cases". *Journal of Higher Education* 48(2); March-April 77: 123-52.

CURRICULUM

Mehta, B.V. "Note on the proposed restructuring of courses for the undergraduate programme of the South Gujarat University". *University Affairs* (Delhi) 4; 15 March. 15 April 77: 8-11.

TEACHING AND TEACHERS' TRAINING

Anderson, R.N. "Trends in teacher education". *University Affairs* (Ottawa) 8(5); May 77:8.

Becher, Tony. "How projects and dissertations are taking over from weekly essays". *Times Higher Education Supplement* (286); 15 April 77:6.

Ogborn, Jon. "Answer to a cry for help—(Higher education learning project)." *Times Higher Education Supplement* (296); 24 June 77:9.

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Portia, D.R. "Educational technology and higher education". *University News* 15(13); 1 July 77: 348-50, 57.

Udgaonkar, B.M. and Ramani, S. "TV in India: Education or entertainment". *Science Today* 12 (i); July 77:7.

EVALUATION

Lord, Frederic M. "Optional number of choices per item." *Journal of Educational Measurement* 14 (1); Spring 77:33-8.

Mathur, V.S. "Examination business". *University News* 15(12); 16 June 77:325,37.

Mueller, Daniel J. and Wasser, Virgina. "Implications of changing answers on objective test items". *Journal of Education Measurement* 14(1); Spring 77:9-13.

ECONOMICS OF EDUCATION

Navin, Leo and Magura, Michael. "A price index for university budgetary decisions". *Journal of Higher Education* 48(2); March-April 77:216-25.

Rosenzweing, Mark R. "Farm—family schooling decision: Determinants of the quantity and quality of education in agricultural populations: *Journal of Human Resources* 12(1); Winter 77:71-91.

ADULT EDUCATION

Marriot, Florence. "Educational Media in the third world". *Times Higher Education Supplement* (286); 15 April 77: III.

Thimann, I.C. "Why adult education is a vital lifetime". *Times Higher Education Supplement* (286); 15 April 77:5.

COMPARATIVE EDUCATION AND COUNTRY STUDIES

Dahrendorf, Ralf. "Problems of German Universities". *Times Higher Education Supplement* (299); 15 July 77:5.

"POLITICAL TRANSFORMATION of German universities: Extracts from the report of the International Council on the future of the universities". *Times Higher Education Supplement* (296); 24 June 77:13.

Ray, Niharranjan. "Stop the tide of graduates". *Youth Times* 6(8); 8 July-21 July 77: 8-9, 11.

UNIVERSITY OF DELHI

Advt. No. Estab. IV/43/77

Applications on the prescribed form are invited for the following posts:

S.No.	Department	Designation
1.	Zoology	i. Three Professors (Specialisation: Entomology/Cell Biology/Cytogenetics/Biological Chemistry) (Two for Centre of Advanced Studies). ii. One Reader (Centre of Advanced Studies)
2	Psychology	One Reader
3	Faculty of Management Studies	i. Eight Readers (One Tempy. but likely to continue) ii. Eight Lecturers iii. One Placement Officer
4.	Buddhist Studies	Two Lecturers (Specialization: Pali for one post)
5.	Mathematics	One Lecturer
6.	Operational Research	One Lecturer (Tempy. upto 17.8.1978)
7.	Modern Indian Languages	i. One Lecturer in Manipuri ii. One Lecturer in Kannada iii. One Lecturer in Marathi
8.	Modern European Languages	i. One Lecturer in Italian ii. One Lecturer in Spanish iii. One Part-time Lecturer in Russian iv. Three Senior Technical Assistants (one each in Russian, French and German languages)
9.	History	Two Lecturers (Tempy.)
10.	Botany	One Lecturer (Tempy. upto 31.10.1978)
11.	Sociology	One Lecturer (Tempy but likely to continue)
12.	Geology	Two Lecturers
13.	Urdu	i. One Lecturer ii. Two Compilers (for Bilingual Urdu-Hindi Dictionary Project)
14.	Faculty of Law: Campus Law Centre	Four Part-time Lecturers
15	Arabic & Persian	One Lecturer in Persian
16	Central Office	One Public Relations Officer

The Scales of the Pay of the posts are:

1. Professor—Rs. 1500-60-1800-100-2000-125/2-2500
2. Reader—Rs. 1200-50-1300-60-1900
3. Lecturer—Rs. 700-40-1100-50-1600
4. Public Relations Officer—700-40-900-EB-40-1100-50-1300
5. Placement Officer—Rs. 1100-50-1600
6. Senior Technical Assistant—Rs. 550-25-750-EB-30-900
7. Compiler—Rs. 1000 P.M. (Consolidated fixed)
8. Part-time Lecturer—Rs. 500/- P.M. (fixed) for work-load ranging from 3—6 hours per week
   Rs. 750/- P.M. (fixed) for work-load ranging from 7—10 hours per week

All posts carry D.A., C.C.A. and H.R.A. as admissible under the rules in force in the University from time to time.

I. ESSENTIAL QUALIFICATIONS FOR

1. Professorships:

A scholar of eminence.

Independent published work of high standard and experience of teaching Post-graduate classes and guiding research for a considerable period desirable.

2. Readerships:

Good academic record with first or high second class Master's Degree in the subject concerned with a Doctor's Degree or equivalent published work.

Independent published work (in addition to the published work mentioned above) with at least 5 years' teaching experience in Honours/Post-graduate classes essential.

3. Lectureships/Part-time Lectureship

(Excepting for posts in the Faculty of Law):

Good academic record with a first or high second class Master's Degree or an equivalent degree of a foreign University in the subject concerned.

(Note: Second Class would mean at least 50% marks in the subject or equivalent grade).

Desirable:

(i) A Doctor's Degree or Evidence of Research work of equivalent standard in the subject concerned.

(ii) Teaching experience of Degree/Post-graduate Classes.

Provided if a teacher is not a Ph.D./M Phil./M.Litt at the time of his/her appointment and does not qualify himself/herself for the award of Ph.D./M.Phil./M.Litt. Degree from a recognised University in a subject which is being taught by him/her within a period of five years from the date of his/her appointment or does not give evidence of research work within that period in the subject concerned, he/she shall not be entitled to any future increments after the expiry of the said period of five years till such time he/she fulfils the above mentioned requirements.

ESSENTIAL QUALIFICATIONS FOR

4. Placement Officer:

Master's Degree in Business Management, Engineering, Technology, Arts, Science or in any discipline of social sciences such as Sociology, Economics, Commerce, Psychology, Social Work, etc. with familiarity in Business Management and/or Personnel Management.

5. Senior Technical Assistants:

(1) Bachelor's Degree; (2) Advance Diploma in Language concerned with Distinction; (3) Well experience in handling Audio-Visual aids, knowledge of Script writing and have training in a recognised language laboratory; (4) Good knowledge of typing in the language concerned.

6. Compilers;

(1) At least a second class Graduate with Urdu as main subject;

(2) Proficiency in Hindi (must have passed Prabhakar) or an equivalent examination in Hindi or published work in Hindi);

(3) Considerable experience in lexicographical work.

7. Public Relations Officer:

A Second Class Master's Degree with Diploma in Journalism and experience of journalism and publications/public relations work.

8. Part-time Lectureships in Law:

Good academic record with First or high Second class Bachelor's or Master's Degree in Law, practice at the Bar for at least 5 years of which at least 3 years should have been in the Trial Courts. Previous teaching experience desirable but not essential.

Note: Part-time teachers may be appointed initially for a period not exceeding one academic year which could be renewed after each academic year with the total tenure of appointment of an incumbent not exceeding 5 years.

II. SPECIAL/DESIRABLE QUALIFICATIONS FOR:

1. Professorships in Zoology:

Specialisation and research experience in any one of the following fields: Entomology, Cell Biology—Cytogenetics, Biological Chemistry.

2. Readership in Zoology:

Specialisation and research experience, as evidenced by publications, in any of the following disciplines:

Cell Biology, Endocrinology, Entomology, Fishery Biology, Developmental Biology, Animal Physiology.

3. Readership in Psychology:

Specialisation in Experimental Psychology,

4. Readerships in the Faculty of Management Studies:

Candidates with Master's Degree in

Business Management, Engineering, Technology, Mathematics or other field of Social Sciences such as Economics, Commerce, Psychology, Sociology, etc. with specialisation in one or more of the following areas:

Business Policy, Management Concepts, Management Information System, Materials Management, Marketing Management/Financial Management/Management Accounting, Economic environment of Business, Personnel Management and organisational Behaviour,

and with consultancy/practical executive experience in a business or an industrial organisation will be given preference. Familiarity with case methods of instruction, advanced training in modern methods of teaching in management are desirable.

Following are the specific requirements for the posts of Readers in the various subject areas:

(a) Business Policy/Management Concepts:
Experience of teaching Business Policy Course through case methods and/or practical experience in the area of corporate planning.

(b) Management Information System:
Teaching experience in the subject area in addition to practical/consulting experience in the application of MIS in different functional areas of Management.

(c) Materials Management:
Specialisation in the subject area and/or consulting experience in the application of quantitative methods to materials management.

(d) Marketing Management:
Research and/or practical experience in Marketing Research/Advertising Management/Application of Quantitative Methods in Marketing Management.

(e) Financial Management/Management Accounting:
Teaching experience in the subject area and advanced research in Public Utility/Hospital Accounting will be preferred. Candidates with Chartered Accountancy/Cost Accountancy qualifications may also apply.

(f) Economic Environment of Business:
Teaching experience at the Post-graduate level in the subject area and advanced research in Applied Macro-Economics. Knowledge of Econometrics and Public Enterprises Management will be additional qualifications.

(g) Personnel Management/Organisational Behaviour:
Experience of conducting executive development programmes, practical/consulting experience in selection techniques and manpower planning and/or advanced research and training in Applied Behavioural Science.

5. Lectureships in the Faculty of Management Studies:

Master's degree or an equivalent degree of a foreign University in Engineering, Technology, Business Management, Mathematics or other field of Social Sciences such as Economics, Commerce, Psychology, Sociology, etc. with specialisation in any one or more of the following areas:

Business Policy, Production Management; Management and Computer; Marketing Research; Financial Management; Project Management; Materials Management; Business and Government or Management Accounting, Personnel Management.

For persons specialising in Financial Management or candidates with Chartered Accountancy or specialisation in Cost Accountancy will be given preference.

Candidates with consultancy/executive experience or with teaching experience in Post-graduate programmes in Business Management will be given preference. Familiarity with the case method of instructions, training in modern methods of instruction in management training abroad in the field of Management will be additional qualifications.

6. Placement Officer:

A person having industrial background or the knowledge of working of private and/or public undertakings or educational institutions with special reference to placement and training work will be given preference.

7. Lectureships in Buddhist Studies:

(i) **For One Post:** Ability to teach Pali through the medium of English and/or Hindi.

(ii) **For Second Post:** Sufficient knowledge in Buddhist philosophical texts in Sanskrit and Pali, and teaching experience either in Buddhist Sanskrit, Pali or Tibetan. Should also be able to teach the subject in English and Hindi.

8. Lectureships in Kannada and Marathi:

(i) Fluency in English and/or Hindi;

(ii) Training and experience in Comparative Literature.

9. Lectureship in Italian

Ability to speak correct Italian; Experience of teaching Italian for 2 years desirable.

10. Lectureship in Spanish :

Evidence of published work/advanced studies or experience of teaching degree classes for not less than two years' and ability to speak correct Spanish/and well conversant with audio-visual aids and language laboratory.

11. Part-time Lectureship in Russian:

Ability to speak correct Russian.

12. Senior Technical Assistants: .

(i) Some experience of handling books in Foreign languages or experience in documentation/publication work. (ii) Good knowledge of typing foreign languages other than that concerned. (iii) Candidates will have to appear in written test in the language concerned.

13. Lectureship in History:

Specialisation in (i) Modern Indian History; (ii) Medieval Indian History.

14. Lectureship in Botany:

Specialisation in Development Botany.

15. Lectureship in Sociology:

Specialisation in research methods and statistical and survey techniques.

16. Lectureships in Geology:

Teaching and/or professional experience in recognised organisations in any one or more of the following sub-disciplines of Applied Geology: Hydrogeology; Geophysical Prospecting; Mineral Economics; Mining Geology; Mineral Fuels; Photo-Geology; Engineering Geology; Mineral Dressing.

17. Compilers:

Knowledge of Persian, Sanskrit and linguistics desirable.

The prescribed application form can be had from the **Information Office** of the University either personally or by sending a self-addressed envelope (size 5"X11") with postage stamps worth **Rs. 2.55.**

Selected candidates will have to produce the original documents relating to their age, qualifications, experience, etc. at the time of interview.

Applications (separate for each post) accompanied by attested copies of Degrees, other certificates, mark-sheets, published research articles, etc. should reach the undersigned not later than **16th August, 1977.**

Note: 1. It will be open to the University to consider the names of suitable candidates who may not have applied. Relaxation of any of the qualifications may be made in exceptional cases, in respect of all posts on the recommendations of the Selection Committee.

2. Canvassing in any form by or on behalf of the candidates will disqualify.

3. Candidates from outside Delhi for teaching posts, called for interview will be paid contribution towards travel expenses equivalent to 1½ single Second Class Rail fare.

4. Those who had applied in response to the earlier advertisement for the posts of Lecturers in History, Management Studies, Operational Research, Mathematics, Manipuri, Kannada, Marathi, Italian, Botany, Sociology, Geology, Urdu, Buddhist Studies and Part-time Lecturer in Russian, **need not apply again, but in case they have any additional information to supply, they may do so.**

Sd/-
REGISTRAR
DELHI UNIVERSITY

INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR

Advertisement No. R/15/77

Applications are invited for the temporary post of LECTURER for the research project 'Feasibility Study on Phased Array Radar Systems including Applications for Missile Tracking and Precision Approach Radar' in the Radar & Communication Centre at I.I.T., Kharagpur (West Bengal). If suitable candidates for the post of Lecturer are not found the vacancy may be filled up by Scientific Officer.

The post is temporary during the continuance of the Project.

Scale of Pay: Rs. 700-40-1100-50-1600/- plus D.A. as admissible.

Age: Perferably between 25 and 38 years.

Qualifications & Experience

Essential:

(i) M.Tech. degree with first class Bachelor's degree in Electronics & Communication Engineering or equivalent.

(ii) At least two years' experience in research/teaching/professional field.

(iii) Specialised knowledge in any one of the following:

(a) Microwave Antennas
(b) Phased array antennas
(c) Radar systems.

Application form may be had from the Registrar on request along with an unstamped self-addressed envelope of size 23 cm× 10 cm. Applications should reach the Registrar, I.I.T., Kharagpur (West Bengal) by the **16th August, 1977**.

INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR

Advertisement No. R/16/77

Applications are invited for appointment to the posts of Professor in the Agricultural Engineering and Rice Process Engg. Centre of the Indian Institute of Technology, Kharagpur (West Bengal). Both the posts are temporary and appointment will be made on temporary basis.

Scale of Pay: Rs. 1500-60-1800-100-2000-125/2-2500/- plus D.A. at admissible rates.

Age: Preferably below 50 years.

Qualifications & Experience:

PROFESSOR—(i) Agricultural Engineering Department
(ii) Rice Process Engineering Centre.

Essential: First class Master's Degree or Second Class Master's Degree with Doctorate Degree in Agricultural Engg. with a minimum of 10 years' experience in teaching at post-graduate level in an institution of University standard and research or development work, having specialised knowledge in one or more specified fields.

Desirable: (a) Research publications in reputed journals. (b) Experience in guiding research. (c) Ability to organise and develop laboratories in the specialised fields.

I. Field of Specialisation (for Agricultural Engineering Deptt. post)

(i) Farm Machinery and Power (ii) Soil and Water Engineering (iii) Farm Structures (iv) Agricultural Process Engineering (v) Dairy and Food Engineering.

II. Field of Specialisation (for Rice Process Engineering Centre)

Crop Process Engineering with special reference to rice.

Only capable persons with uniformly good academic career, aptitude for teaching Post-graduate and Undergraduate Classes, Research and Development work need apply.

Application form may be had from the Registrar on request along with an unstamped self-addressed envelope of size 23 cm×10 cm. Applications accompanied with an application fee **(non-refundable)** of Rs. 7.50 (Rs. 1.87 for SC/ST candidates) payable by means of crossed Indian Postal Order to Indian Institute of Technology, Kharagpur at Kharagpur 2 Post Office should reach the Registrar, I.I.T., Kharagpur (West Bengal) by the **23rd August, 1977**.

PANJAB UNIVERSITY (CHANDIGARH)

Advertisement No. 16/77

Applications are invited for the following posts so as to reach the Registrar, Panjab University, Chandigarh, by **16.8.1977** along with postal orders for Rs 7.50. Number of post/s is indicated with the subject. Qualifications-Essential and desirable be perused carefully.

(A) **Professors** (Pay-scale: Rs. 1500-60-1800-100-2000-125/2-2500) Ancient Indian History, Culture & Archaeology-1, Economics-1, Philosophy-1, Botany-2, Geology-1 (Geochemistry/Tectonics).

QUALIFICATIONS

Essential

(i) A first or high second class Master's degree of an Indian University or an equivalent qualification of a foreign University in the subject with bright academic record.

(ii) Either a research degree of a doctoral standard or published research work of high standard in the subject concerned in the journals of repute.

(iii) About 10 years experience of teaching post-graduate classes at a University or College level and experience of guiding research.

Desirable

Professor of Ancient Indian History, Culture & Archaeology.

(i) Specialisation in Ancient History or Culture or Archaeology.

(ii) Good knowledge of Sanskrit.

Professor of Botany

Outstanding meritorious contribution in any field of Botany, one preferably in Cryptogams.

(B) **Readers** (Pay-scale: Rs. 1200-50-1300-60-1900) Commerce & Business Management-2, Economics-2, Education (including one for evening classes-2, History (P.U. Evening College, Chandigarh-1, Department of History-2)-3, Punjabi (Temporary-1, Permanent-1)-2, Political Science-1, Sanskrit-1, Sociology-1, Anthropology (Human Ecology/Prehistoric Archaeology-1, Biochemistry (Nucleic Acid-1, Biophysical Chemistry/Molecular Biochemistry-1)-2, Botany (including one in Plant Physiology)-2, Mathematics-1, Microbiology (Immunology-1, Medical Microbiology-1)-2, Pharmaceutical Chemistry-1, Pharmacology-1, Physical Chemistry-1, Organic Chemistry-1.

Qualifications

Essential

(i) A first or high second class Master's degree of an Indian University or an equivalent qualification of a foreign University in the subject with bright academic record.

(ii) Either a research degree of doctoral standard or published research work of high standard in the subject concerned in journals of repute.

(iii) About 5 years experience of teaching postgraduate classes at University or College level and experience of guiding research.

Desirable

Readers in Commerce & Business Management

(a) Either (ii) above or Graduate and Associate/Fellow of the Institute of Chartered Accountants of India or England having passed the Management Accountancy Examination of the Institute.

(b) Either (iii) above or five years experience in a business Organisation of repute.

(c) Specialisation in any one of the following:—
Accounting/Business Economics Labour and Industrial Relations Banking and Finance/Business Statistics/Business Laws.

Readers in Economics

For one post : Proficiency in the central areas of macro, micro and growth economics, especially in their mathematical aspects.

For second post : Proficiency in the central areas of Econometrics/Macro/Micro/Growth and Development Theory of Fiscal Economics and Theory of Choice. (Applicants must possess adequate mathematical proficiency in these areas).

Readers in Education

A Doctor's degree in Educational Psychology/Educational Sociology/Curriculum Development. Teaching experience of Educational Psychology/Educational Sociology/Curriculum Development at the Post-graduate level.

Reader in History: (P.U. Evening College: Punjab History).

Readers in Punjabi

(i) Temporary post: Comparative Philology/History of Punjabi Literature.

(ii) Permanent post: Research work or published work of an equally high standard in field of Punjabi Fiction or Punjabi Drama or in a significant period of Punjabi Literature.

Reader in Political Science

Either Pakistan Studies or Indian Government & Politics or comparative Politics or Modern Political Analysis and Research Methodology with Statistics.

Reader in Sociology

(i) Specialisation in one or more of the following fields:
Urban Sociology, Social Stratification, Social demography, family and marriage and sociology of Develppment.

(ii) A thorough acquaintance with qualitative methods of research.

Reader in Mathematics

Either a research degree of doctoral standard or published research work of high standard in Applied Mathematics preferably in the areas of Magnetohydrodynamics or Differential equations in journals of repute.

Readers in Microbiology

Doctoral degree in Microbiology, Teaching and Research Experience in Medical Microbiology/Immunobiology and immunochemistry.

Reader in Physical Chemistry

Specialisation in the field of Catalysis or Surface Chemistry.

Candidates who do not possess a Doctoral degree are required to submit 10 typed/cyclostyled copies of brief resume of their research/published work. Separate application should be submitted for a post in a different Department.

Persons already in service should route their applications through proper channel. Incomplete forms and those received after the due date will not be entertained. Serving employees may, however, send their applications on the prescribed proforma direct to the University. They may route another copy through their Departments. They will be allowed to present themselves for interview only on the production of a 'No Objection Certificate' from their employers. Canvassing in any form will disqualify a candidate.

Application forms can be obtained from the Office of the Finance & Development Officer, Panjab University, Chandigarh, by making a written request accompanied with self-addressed stamped envelope of 23x10 cms.

INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR

Advertisement No. R/17/77

Applications are invited for the undermentioned posts in the Radar & Communication Centre at I.I.T., Kharagpur (West Bengal).

All posts are temporary during the continuance of the Centre.

Posts:

I. Assistant Professor (Radar & Communication Centre) — 2 posts

Scale of Pay: Rs 1200-50-1300-60-1900 plus usual D.A. as admissible.

Age: Preferably between 30 and 45 years.

Qualifications & Experience

(a) **Essential**: Master's Degree in Electronics and Electrical Communication Engineering or equivalent with Doctorate degree in Microwave Engineering or related field with a minimum of 5 years experience in research and/or teaching.

(b) **Desirable**: (i) Publication in reputed journals (ii) Experience in carrying out independent research (iii) Corporate membership of recognised institution.

II. Lecturer/Scientific Officer (Radar & Communication Centre) — 3 posts

Scale of Pay: Rs 700-40-1100-50-1600 (for Lecturer) and Rs 700-40-900-EB-40-1100-50-1300 (for Scientific Officer) plus usual D.A. as admissible.

Age: Preferably between 25 and 38 years.

Qualifications & Experience for Lecturer

(a) **Essential**: (i) M. Tech. Degree with good academic record in Electronics & Electrical Communication Engineering or equivalent with specialisation in Microwave Engineering or Digital Communication. (ii) Two years' experience in research/teaching/professional field.

(b) **Desirable**: Publication in reputed journals

for Scientific Officer

Essential: (i) M. Tech. Degree with good academic record in Electronics and Electrical Communication Engineering or equivalent with specialisation in Microwave Engineering or related fields. (ii) One year's experience in research or professional field.

III. Junior Research Assistant (Radar & Communication Centre) — 3 posts

Scale of Pay: Rs 425-15-500-EB-15-560-20-700 plus usual D.A. as admissible.

Age: Preferably not less than 20 years.

Qualifications & Experience

(a) **Essential**: Either an M. Sc. Degree in Chemistry/Physics/Mathematics or a Bachelors Degree in Electronics & Electrical Communication Engineering or equivalent.

(b) **Desirable**: Post-graduate diploma, some experience on polymer synthesis and foaming techniques or in electronic computer.

Application forms may be had from the Registrar on request along with an unstamped self-addressed envelope of size 23 cm.x10 cm. Applications accompanied with an application fee **(non-refundable)** of Rs 7.50 for posts under category I & II and of Rs 3.00 for posts under category III (Rs 1.87 and Re 0.75 respectively for SC/ST candidates) payable by means of crossed Indian Postal Order to the Indian Institute of Technology, Kharagpur at Kharagpur-2, Post Office should reach the Registrar, I.I.T., Kharagpur by the **30th August, 1977.**

JADAVPUR UNIVERSITY CALCUTTA-32

Corrigendum to the Employment Notification

Reference the above employment notification, under specialisation for post 2 (a): add "Combustion Engineering/Chemical Technology / Thermo-Dynamics" and for post 2 (b): Reader of Philosophy: for "Specialisation in Indian Logic and Mathematics" read "Specialisation in Indian Logic and Metaphysics".

REGISTRAR

SPORTS TALENT SCHOLARSHIPS 1977-78

Secretary, Association of Indian Universities, Rouse Avenue, New Delhi-110002 invites applications for award of fresh sports talent scholarships for 1977-78 and renewal of scholarships awarded for 1976-77. Applications on prescribed forms, available from Registrars/Sports Officers of the universities and this Office, should reach the Secretary of the Association before **16th September, 1977.**

DIBRUGARH UNIVERSITY DIBRUGARH

Advertisement No. 4/77

Applications are invited for the post of 2(two) Lecturers in the Department of Commerce. In addition to the pay, the posts carry House Rent Allowance, Dearness Allowance etc. as admissible under the rules of the University.

Scale of Pay Rs. 700-40-1100-50-1600 p.m. (Revised)

Minimum academic qualification: (a) Dotor's degree or published work of an equally high standard and (b) Consistently good academic record with First or High Second Clast (B+) Master's degree in a relevant subject or an equivalent degree of a foreign University.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of the qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent published work is not available or is not considered suitable a person possessing a consistently good academic record (due weightage being given to M. Phil or equivalent degree or research quality) may be appointed on the condition that he will have to obtain a Doctor's degree or give evidence of published work of equivalent high standard within five years of his appointment failing which he will not be able to earn future increments until he fulfils these requirements.

Specialisation : In transport or taxation will be preferred.

Nine copies of application stating (1) Name in full (Block letters), (2) Father's name, (3) Home address with Police Station, (4) Present address with T.O., (5) Age on 1.3.77, (6) Present occupation and pay, (7) (a) Are you a citizen of India ? If so, how ? (b) Is/Was your father a citizen of India, (8) Division/Class showing the percentage of marks secured in each examination along with attested copies of certificates and testimonials accompanied by an Indian Postal Order for Rs. 5/- only, should reach the undersigned **not later than 13th August, 1977.** Reprints of research papers or articles or published works should be attached along with the applications. A certificate about good character from the Head of the Institutions last attended or served must accompany the application for the posts.

Applicants already in service should apply through proper channel but they may submit advance copy of the applications. Candidates called for interview will have to appear before the Selection Committee at ther own costs.

Sd/-
D.H. Goswami
REGISTRAR

UNIVERSITY OF INDORE

University House,
INDORE : 452 001

No. Estt/III/(10)/77
Dated the 22nd July, 1977

Advertisement

Applications on the prescribed form obtainable from the University Office on payment of Rs 3/- (in the shape of Crossed Indian Postal Order), are invited for the following posts:—

- (i) Chemistry—one post of Professor.
- (ii) Mathematics—one post of Professor; and one post of Reader.

Qualifications & Pay-scales:

(a) **Professor**—Rs 1300-50-1500-75-1800-100-2000/-

- (i) A first or second class Master's degree of an Indian University or an equivalent qualification of a foreign University in the subject concerned.
- (ii) Either a degree of the doctorate standard or published work of high standard.
- (iii) Not less than 10 years experience of Post-graduate teaching and experience of successfully guiding research.
- (iv) For the post of Professor in Chemistry, the candidate should possess specialisation (either by degree or research) in Analytical/ Theoretical Chemistry.

In the case of a candidate of exceptional merit the Executive Council may, on the recommendations of the Selection Committee and with the prior approval of the Kuladhipati, relax any of the qualifications.

(b) **Reader**: Rs. 1100-50-1600/-

(i) & (ii) same as for Professor with Post-graduate teaching experience of five years and three years experience of guiding research. Working knowledge of Hindi shall be a desirable qualification. Preference will be given to the persons specialising in Statistics & Probability.

3. The above scales carry with them D.A. and C.P.F. benefits as per University rules. A higher start can be given to deserving candidates.

4. Preference will be given to Scheduled Caste and Scheduled Tribe candidates if found suitable. Candidates already in service should apply through proper channel.

5. Applications (8 copies) duly filled-in and accompanied with crossed Indian Postal Order of 10/- should reach the undersigned on or before **5th September 1977**, the envelope being superscribed as "Application for Professor/Reader in......"

6. The University reserves the right to fill-up or not to fill-up the post and/or to call only selected candidates for interview at their own cost.

REGISTRAR

ALIGARH MUSLIM UNIVERSITY

Advertisement No. 13/77-78

Applications, on the prescribed form, are invited for the post of Accounts Officer in the scale of Rs. 1100-50-160) plus allowances.

Qualifications: At least a graduate. Ordinarily experience of Accounts including pre-audit work and finance for 10 years of which not less than 7 years service should be in a supervisory capacity "not below the rank of Accountant or Superintendent (Accounts) or Section Officer".

Desirable: Chartered Accountant.

Note: (1) Qualifications may be relaxed in case of candidates with wide experience.

(2) Those who have already applied, need not apply again.

Prescribed application forms and instructions may be had from the Deputy Registrar (Executive) either personally or by sending a self-addressed envelope of 23 x 10 cm. Last date for receipt of applications is **20th August, 1977.** Incomplete applications and those received late may not be considered.

Higher initial start may be given to candidates possessing exceptional qualifications and experience. Candidates interviewed may be paid contribution towards their T.A. equal to one single second class railway fare only.

Jamalur Rahman
REGISTRAR

ALIGARH MUSLIM UNIVERSITY

Advertisement No. 14/77-78

Applications, on the prescribed form, are invited for the following posts:

1. **Professor of Organic/Inorganic/Physical/Analytical/Biochemistry. Scale Rs. 1500-60-1800-100-2000-125/2-2500 plus allowances.**

Qualifications:

(a) A first or a high second class Master's Degree in any branch of Chemistry of an Indian University or an equivalent foreign qualification; (b) A research degree of a doctorate standard or published work of a high standard; and (c) Atleast ten years experience of teaching postgraduate classes und guiding research.

2. **Reader in Organic/Inorganic/Physical/Analytical/Biochemistry** (Post **temporary), Scale Rs. 1200-50-**1300-**60-1900 plus allowances.**

Qualifications:

(a) A first or a high second class Master's Degree in the subject concerned of an Indian University or an equivalent foreign qualification; (b) A research degree of a doctorate standard or published work of a high standard; and (c) Atleast five years experience of teaching post-graduate classes and some experience of guiding research.

3. **Lecturers in Chemistry (Organic/Inorganic/Physical/Analytical/ Biochemistry). Two posts—one permanant** and **one temporary. Scale Rs.** 700-40-**1100-50-1600 plus allowances.**

Qualifications:

(a) A Doctor's Degree or research work of an equally high standard: and (b) Consistently good academic record with first or high second class (B in the seven point scale) Master's Degree in a relevant subject or an equivalent degree of a foreign University.

Having regard to the need for developing inter-disciplinary programmes, the degrees in (a) and (b) above may be in relevant subjects.

4. **Reader in Statistics. Department** of **Statistics. Scale Rs. 1200 50** 1300-**60-1900 plus allowances.** (V Plan **Post)**

Qualifications:

(a) A first or a high second class Master's Degree in the subject concerned of an Indian University or an equivalent foreign qualification; (b) A research degree of a doctorate standard or published work of a high standard; and (c) At least five years experience of teaching postgraduate classes and some experienec of guiding research.

Desirable:

Research experience in Stochastic **Process/Mathematical Programming.**

5. **Reader in Philosophy (Temporary but likely to become permanant). Scale Rs. 1200-50-1300-60-1900 plus allowances.**

Qualifications:

(a) A first or a high second class Master's Degree in Philosophy of an Indian University or an equivalent foreign qualification; (b) A research degree of a doctorate standard or published work of a high standard; and (c) Atleast five years experience of teaching postgraduate classes and some experience of guiding research.

Desirable:

History of Philosophy/Comparative Philosophy.

Note:

Those who have already applied, need not apply again.

For the post of Lecturers (Sl. No. 3) Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of the qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's Degree or equivalent research work is not avaliable or is not considered suitable, a person possessing a consistently good academic record (weightage being given to M. Phill or equivalent degree or research work of quality) may be appointed provided he has done research work for atleast two years or has practical experience in a research laboratory/organisation on the condition that he will have to obtain a Doctor's Degree or give evidence of research work of equivalent high standard within five years of his appointment, failing which he will not be able to earn future increments until he fulfils these requirements.

Prescribed application forms and instructions may be had from the Deputy Registrar (Executive) either personally or by sending a self-addressed envelope of 23 x 10 cm. Last date for receipt of applications is **20th August, 1977**. Incomplete applications and those received late may not be considered.

Higher initial start may be given to candidates possessing exceptional qualifications and experience. Candidates interviewed may be paid contribution towards their T A. equal to one single second class railway fare only.

Jamalur Rahman
REGISTRAR

HIMACHAL PRADESH UNIVERSITY, SIMLA-171005.

'RECRUITMENT BRANCH'

Advertisement No: 3/77

Applications are invited for the following posts:

Agricultural Complex

Department of Entomology—Zoology:

1. Nematologist. **Desirable:** (i) Ph. D Nematology (ii) 5 years experience of working with plant parasitic nematodes as evidenced by published papers.
2. Assistant Entomologist. **Desirable:** (i) Ph. D in Entomology/Zoology (ii) Experience of working with parasitic mites.
3. Senior Technical Assistant. **Desirable:** Ph. D. Entomology/Zoology.
4. Research Assistant. **Desirable:** (i) Ph. D Entomolgy/Zoology (ii) Experience of Beekeeping with reference to Bee enemies.

Department of Soil Science and Agricultural Chemistry:

5. Associate Professor in Survey and pedology/Soil Chemistry. **Desirable:** Ph. D in Soil Survey and pedology/Soil Chemistry.
6. Associate Prefessor Chemistry. **Desirable:** Ph. D in Organic Chemistry and teaching experience in soil organic matter and analytical procedure.
7. Associate Professor Soil Physics. **Desirable:** Ph. D in Soil Physics.
8. Associate Professor Soil Fertility and Plant Nutrition. **Desirable:** Specialisation in Radio tractor techniques and micronutrients.
9. Agricultural Engineer.
10. Assistant Professor Inorganic Chemistry. **Desirable:** Doctoral experience in complex compounds and analytical methods.
11. Assistant Professor Soil Microbiology. **Desirable:** Ph. D in Soil Microbiology.
12. Assistant Soil Chemist. **Desirable:** Specialisation in Soil Fertility/Soil Chemistry.
13. Assistant Research Officer. **Desirable:** Specialisation in radio-chemistry.
14. Assistant Soil Survey Officer. **Desirable:** Specialisation in Soil Survey in pedology.
15. Lecturer (Physical Chemistry).
16. Lecturer (Soils).

University Teaching Departments:

17. Professor of Business Administration.
18. Professor of Economics.
19. Professor of Mathematics.
20. Professor of Physical Chemistry with specialisation in (i) Non equilibrium Thermodynamics (ii) Electro-Chemistry (iii) Membrane Phenomenon.
21. Professor of English.
22. Professor of Political Science.
23. Professor of Physics.
24. Professor of Agricultural Economics.
25. Professor of Education.
26. Associate Professor of Business Administration.
27. Associate Professor of English with specialisation in Drama/Comparative literature/Novel/Poetry/Renaissance.
28. Associate Professor of Mathematics with specialisation in Fluid Mechanics, Soild Mechanics, Plasma Physics, Algebra, Analysis, Topology, Numerical Analysis, Functional Analysis, Differential Geometry.
29. Associate Professor of Linguistics.
30. Associate Professor of Physics with specialisation in Theoretical or Experimental Physics.
31. Associate Professor of Physics (Leave vacancy for one year).
32. Associate Professor of Sanskrit with specialisation in one or more of the (i) Veda (ii) Darshana (iii) Sahitya.
33. Associate Professor of Music.
34. Associate Professor of Education.
35. Associate Professor of Law.
36. Assistant Professor of Business Administration.
37. Assistant Professor of Physical Chemistry (leave vacancy for 2 yrs.).
38. Assistant Professor of Political Science.
39. Assistant Professor of Political Science (leave vacancy for 8 months).
40. Assistant Professor of Psychology.
41. Assistant Professor of Law.
42. Assistant Professor of Education (leave vacancy for one year in the first instance).

University Evening College:

43. Lecturer in Commerce. **Desirable:** Teaching experience of degree classes.

Directorate of Correspondence Courses:

44. Associate Professor of Education.
45. Associate Professor of Hindi.
46. Associate Professor of Political Science.
47. Associate Professor of Economics.
48. Associate Professor of English.
49. Associate Professor of History.
50. Associate Professor of Commerce. (For the posts at Sl. No. 44 to 50 at least three years experience of teaching post-graduate classes through Correspondence Courses is desirable qualification).
51. Deputy Director/Associate Professor. **Desirable:** Preference will be given to candidates having administrative experience.
52. Lecturer in Sanskrit.

University Offices:

53. Deputy Registrar.
54. Assistant Registrar.

Construction/Design/Architect Cells:

55. Executive Engineer (Construction/Design).
56. Assistant Engineer.
57. Assistant Architect.
58. Architectural Assistant—Grade-I.
59. Architectural Assistant—Grade-II.

University Dispensaries:

60. Medical Officer (G.D.O.II).

Pay Scale & Essential Qualifications:

For posts at Sl. No. 17 to 25: Rs. 1500-60-1800-100-2000-125/2-2500 Ph. D or an equivalent degree; five years' post-graduate teaching or five years teaching of Honours Classes of five years' post-doctoral research in a

University or a Research Institute; and distinguished research work.

For posts at Sl. No. 1, 5 to 9, 26 to 35 and 44 to 51: 1200-50-1300-60-1900.

Ph. D or an equivalent degree; two years' post-graduate teaching or two years teaching of Honours Classes or post-doctoral reserch in a University of a Research Instittute; and distinguished research work.

For posts at Sl. No. 2,10 to 14 and 36 to 42: Rs. 700-40-1100-50-1600. (a) Ph.D or an equivalent degree. For published work of an equally high standard in the subject concerned; and (b) having consistently good academic record with First or High Second Class (B plus) Master's degree in the subject concerned or in an allied subject, or an equivalent degree of a foreign University.

For posts at Sl. No. 3, 4, 15, 16, 43 and 52: Rs. 700-40-1100-EB-50-1300-Assessment-60-1600.

(a) M. Phil or an equivalent degree or published work indicative of capacity for independent research work; and (b) having consistent good academic record with First or High Second Class (B plus) Master's degree in the subject concerned or an allied subject, or an equivalent degree of a foreign University.

Provided that the Executive Council may, if necessary, relax any qualifications at (b) above on the recommendations of the Vice-Chancellor or the Selection Committee, as the case may be, if the research work of a candidate as evident either from his thesis or from his published work is considered to be of a very high standard:

Provided further that a candidate possessing a consistent good academic record may be appointed, if a candidate with qualifications at (a) above is not available or is not considered suitable, on the condition that he will have to attain the required qualifications, within five years of his appointment, failing which he shall not earn future increments until he fulfils the conditions.

In case of selection and appointment to the above posts, the person concerned will have to serve the University at least for a period of two years.

For post at Sl. No. 53: Rs. 1100-50-1600.

- Passed the Master's Degree of a recognised University and possesses at least five years experience as Senior Lecturer or District Education Officer or Assistant Registrar in recognised University or in an equivalent position in a Board of School Education or 10 years' experience as Lecturer.

Upper Age Limit: 55 years.

For post at Sl. No. 54: Rs 700-40-1100-50-1300.

Passed the Master's Degree of a recognised University and possesses a minimum of five years' experience as College Lecturer or Block Education Officer or Headmaster of a High School or possesses like period of experience as Office Superintendent or in an equivalent position.

Upper Age Limit: 45 years.

For post at Sl. No. 55: Rs 800-1600.

(a) Degree in Civil Engineering or equivalent from recognised University/Institution with seven years practical experience as Assistant Engineer or equivalent. OR

(b) Diploma in Civil Engineering from recognised institution with eight years experience as Assistant Engineer or equivalent post.

Desirable: Experience in Design and Construction of Multi-storeyed buildings.

Upper Age Limit: 40 years.

For post at Sl. No. 56: Rs. 400-1100.
(a) Degree in Civil Engineering from recognised University/Public Institution or equivalent. OR

(b) Diploma in Civil Engineering from recognised Institution.

And

(c) Seven years practical experience in case of diploma holders.

Upper Age Limit: 35 years.

For post at Sl. No. 57: Rs. 400-1100.

(a) Degree or Diploma in Architecture of a recognised University/Institution recognised for recruitment to superior posts in Government of India.

OR

(b) Qualifications included in the schedule of section 14 of Archiects bill 1972.

And

(c) About two years experience under a qualified Architect.

Upper Age Limit: 35 years.

For post at Sl. No. 58; Rs. 300-25-600.

(a) Degree or Diploma in Architecture of a recognised University/institution recognised for recruitment to superior posts in Govt. of India. OR

(b) Qualifications included in the Schedule of Section 14 of Architects bill 1972. OR

(c) Three years diploma in Architectural Assistantship with three years experience on the post of Architectural Assistant Grade-II or equivalent under qualified Architect.

Preference will be given to candidates having qualifications mentioned under (a) and (b) above.

Upper Age Limit: 30 years.

For post at Sl. No. 59: Rs. 250-450.

(a) Degree or Diploma in Architecture or having sat for final examination of a recognised University/Institution recognised for recruitment to superior posts in Govt. of India. OR

(b) Having sat for the final examination of qualifications included in the schedule of section 14 of Architects bill 1972.

OR

(c) Intermediate in Architecture from **a recognised University/Institution** with **one year experience under a qualified Architect after qualifying.**

OR

(d) Three years diploma course in Architectural Assistantship from the recognised Institution/Board and possess at least two years experience under a qualified Architect after qualifying.

Upper Age Limit: 28 years.

For post at Sl. No. 60: Rs. 400-40-800-50-950. (Likely to be revised to Rs. 400-1100.)

The post is reserved for male candidate and shall have to join his duties at Solan. He will not be allowed private practice, but entitled to non-practising allowance at the rate of 50% of his basic salary.

Essential Qualifications: (i) A recognised Medical qualification included in the first or second schedule or part II of the Third schedule (other than licentiate qualifications) to the Indian Medical Council Act, 1956. Holders of Educational qualifications included in part II of the third schedule should also fulfil the conditions stipulated in Section 13 (3) of the Act ibid.

(ii) Completion of compulsory rotatory internship.

(iii) Must be registered under the Central/State Medical Registration Act.
Desirable: Knowledge of customs, manners and dialects of Himachal Pradesh.

The above scales carry with them usual allowances and benefit of C.P.F/G.P.F. etc. in accordance with the rules of the University.

Higher start in the grade is Admissible on the basis of special qualifications and experience.

Applications should be made on the prescribed form obtainable from the Registrar by sending a self-addressed stamped envelope (size 23x10 cms) and applications complete in all respects together with a crossed postal order of Rs. 7.50 (not applicable in case of those applying from outside India and for post at Sl. No. 59), drawn in favour of the Finance Officer, Himachal Pradesh University, should reach the undersigned by the **20th August, 1977.** A person applying for more than one post should send a separate application for each post.

Note: Applicants for the posts in Dir. of Corr. Courses and Univ. **Teaching Department** in response to our Advt. Nos. 13/76, 15/76, 1/77 & 2/77 **need not apply** again. They may, however, send additional information, if any. Applicants for the post of XEN in response to Advt. No. 17/75 also need not apply again.

Sd/-

A.S. BAJWA
REGISTRAR

ANDHRA UNIVERSITY

Advertisement

Applications in the prescribed form are invited for the following posts so as to reach the Registrar, Andhra University, Waltair, on or before **13th August 1977**. Each application shall be accompanied by a crossed Indian Postal Order for Rs 10 (Rupees ten only) or a Bank Receipt remitting that amount in the State Bank of India to the credit of A.U. General Account (Ordinary) towards the Registration Fee for the application.

The details of qualifications prescribed in respect of each post including the particulars and precise branch of specialisation which is needed and also the preferential qualifications considered desirable will be furnished along with the application form.

Requisition for the application forms may be made to Sri P. Hanumantha Rao, Deputy Registrar, Andhra University, Waltair, accompanied by a self addressed and stamped envelope and a State Bank of India Challan or Crossed Indian Postal Order for one Rupee. The University reserves the right to fill or not to fill all or any of the posts. The cover containing the applications should be superscribed as "Application for Appointment to the Post of..."

Subject	**Professor**	**Reader**	**Lecturer**
History & Archaeology	1	—	—
Philosophy	1	1	—
Law	1	—	—
Statistics	—	2	—
Bio Chemistry	—	—	1 (Temporary)
Marine Studies	—	1	1
Material Handling Systems	1	—	—

Note: The rule of reservation for SC/ST/BC candidates is applicable for the posts of Lecturers only.

Scale of Pay

Professors	Rs. 1500-60-1800-100-2000 Assessment-125/2-2500
Readers	Rs. 1200-50-1300-60-1900
Lecturers	Rs. 700-40-1100-50-1600
Professor of Material Handling Systems	Rs 1100-50-1300-60-1600 (Non-D.A. merged scale The scale of pay will be revised)

M. Gopalakrishna Reddy
REGISTRAR

JADAVPUR UNIVERSITY
CALCUTTA-32

11th July, 1977

Applications in the prescribed form (priced Re. 1) are invited for award of:

1. Senior Research Fellowship: 2. Value Rs. 600 (fixed) per month each
2. Junior Research Fellowship: 4. Value - Rs. 400 (fixed) per month each:

under the U.G.C. Programme of Special Assistance to the Department of Philosophy.

Qualification etc.:

For posts at 1: Doctorate degree in Philosophy/in case of traditional scholars possessing Tarkatirtha, Vedanta Tirtha etc. publication of high standard or adequate research experience.

Desirable: Specialisation in Advanced Indian Logic and Metaphysics/Non-standard and Philosophical Logic/Philosophy of Language/Sociology of knowledge.

Age: Below 40 years.

For posts at 2: Master's degree in Philosophy or equivalent with a First Class either in B.A. (Hons.) or M.A. or 55 per cent marks in Both B.A. (Hons.) and M.A. or Tarkatirtha/Vedanta Tirtha / Nyayatirtha / Mimamasatirtha / Vyakarantirtha in Panini (or recognised equivalent titles in Sanskritic Studies).

Candidates should be willing to undertake research in the same fields of specialisation mentioned for post at 1 above except that Philosophy of Mind should replace Philosophy of Language.

Age: Below 35 years.

Last date for submission of Applications: **8th August, 1977**.

No T.A./D.A. is admissible to candidates called for interview.

REGISTRAR

UNIVERSITY OF RAJASTHAN
JAIPUR

Advertisement No. 2/77

Applications are invited (through proper channel in case of those already in employment) so as to reach this office on or before the **20th August, 1977** in the prescribed form available from the Registrar's Office on pre-payment of Rs. 4 (Rs. 3 extra in case required by post) for a post of Lecturer in Persian in the grade of Rs. 700-40-1100-50-1600:

Essential Qualifications:

(a) A doctor's degree or published work of an equally high standard, and (b) Consistently good academic record with first or high second class (B+) Master's degree in relevant subject or an equivalent degree of a foreign University. Having regard to the need for developing interdisciplinary programmes, the degree in (a) and (b) above may be in relevant subjects. Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of a high standard or that his teaching experience is substantial and of adequate standard, it may relax any of the qualification prescribed in (b) above. Provided further that if a candidate possessing a Doctor's degree or equivalent published work is not available or is not considered suitable a person possessing a consistently good academic record (due weightage being given to M. Phil or equivalent degree or research work of quality or teaching) may be appointed on the condition that he will have to obtain a Doctor's degree or give evidence of published work of equivalent high standard within five years of his appointment, failing which he will not be able to earn future increments until he fulfils these requirements.

Explanation: (1) Consistently good academic record means overall record of all assessments throughout the academic career leading to the Master's degree, which should at least be B+ or high second class. (2) While considering the making of any relaxation in the qualifications in respect of any candidate in accordance with the above provisions, it will be ensured that the qualifications so relaxed shall in no case be lower than those which existed prior to the aforesaid qualifications were prescribed, viz; A first class Master's degree in the subject concerned or in allied discipline of Indian or foreign University or a second class Master's degree with at least three years experience of teaching degree classes of accredited research experience of at least three years (preferably a research degree.

Desirable: Knowledge of Modern Persian and of Indo Iranian Cultural relations. Benefit of Provident Fund and other allowances will be admissible as per rules of this University. Canvassing in any form will be a disqualification. Higher start may be given to deserving candidate. In exceptional cases relaxation in the requirement of experience may be made by the Selection Committee at its discretion. Selected candidate is liable to be posted in any unit of the University.

L.P. VAISH
REGISTRAR

GANDHIAN INSTITUTE OF STUDIES, RAJGHAT-VARANASI

Corrigendum to the Advt. No. 1/77-78 which appeared in the columns of this journal of July 1, 1977 Issue

Last dates for receipt of applications for the posts of professors, one each, in Economics, Political Science and Sociology have been exteded as under:

From persons residing in India : **August 15, 1977**.

From those residing outside India : **August 31, 1977**.

Sd/-
REGISTRAR

UNIVERSITY NEWS, AUGUST 1, 1977. Regd. No. R. N. 7180/63 Postal No. D. (C) 534

INDIAN INSTITUTE OF TECHNOLOGY, KANPUR, IIT POST OFFICE KANPUR

Advertisement No. 16/77

Applications are invited for the post of Librarian and Deputy Librarian in the Central Library of the Institute in the scale of Rs. 1500-60-1800 (likely to be revised to Rs. 1500-60-1800-100-2000-125/2-2500) and Rs. 1100-50-1600 respectively.

Qualifications for the post of Librarian:

Essential:

First or high second class B. Tech./M.Sc./M.A./M.Com. degree plus a first or high second class Bachelor's degree or Diploma in Library Science with atleast 15 years of experience as detailed below:

. OR

Doctorate degree in Science with an excellent academic record evidenced by way of publications of good quality in professional journals of repute with at least 8 years of experience as detailed below:

The candidates must have demonstrated organizational abilities and leadership qualities and must have an understanding of acquisition of foreign books and journals.

Experience:

The number of years of experience indicated above in each case should be in a position of responsibility in an academic or research Library (preferably in a University or Technical Institute of higher education) or with extensive bibliographical activity in the areas of Science and Technology.

Desirable:

1. Everything else remaining same, candidates having basic degree in Science or Engineering will be preferred.
2. Candidates having First or High Second Class Master's degree in Library Science will be preferred.
3. Knowledge of Hindi and of a modern European language other than English will be preferred.
4. Special consideration will be given to experience in modern Library systems and knowledge and/or experience in information science, especially in the use of Computer's for documentation and information retrieval.

Qualifications for the post of Deputy Librarian:

Essential:

First or Second Class B. Tech./M.Sc./M.A./M Com. degree plus a first or second class Bachelor's degree or Diploma in Library Science with at least 7 years of experience in a responsible professional capacity in a large library.

The candidates must have demonstrated organisational abilities and leadership qualities and must have an understanding of acquisition of foreign books and journals.

Experience:

The number of years of experience indicated above in each case should be in a position of responsibility in an academic or research Library (preferably in a University or Technical Institute of higher education) or with extensive bibliograbhical activity in the areas of Science and Technology.

Desirable:

1. Everything else remaining same, candidates having basic degree in Science or Engineering will be preferred
2. Candidates having First or High Second Class Master's degree in Library Science will be preferred.
3. Knowledge of Hindi and of a modern European language other than English will be preferred.
4. Special consideration will be given to experience in modern Library systems and knowledge and/or experience in information science, especially in the use of Computer's for documentation and information retrieval

The Indian Institute of Technology, Kanpur is one of the five Institutions which were established by Government of India to provide higher technical education. The Central Library of IIT-Kanpur has a collection of more than 1,00,000 books and bound periodicals covering engineering, technology, science, humanities and social sciences with current subscriptions to over 1600 periodicals, and serials. The Librarian at this Institute will belong to the academic community, and will be a member of the Academic Senate. He will be responsible for developing the Library along modern lines, providing dynamic and imaginative leadership to the Library staff which includes over 60 members trained in Library works.

Other things are being equal preference will be given to Scheduled Caste/Scheduled Tribe candidates.

Posts are permanent and carry retirement benefits in the shape of CPF Scheme or CPF-cum-Gratuity Scheme or GPF-cum-Pension-cum-Gratuity Scheme as may be opted according to rules. The age of retirement is 60 years. Besides pay, posts carry allowances according to the Institute rules, which at present correspond to those admissible to the Central Government employees stationed at Kanpur. Higher initial pay is admissible to exceptionally qualified and deserving candidates. Candidates called for interview will be paid second class railway fare from the place of duty to Kanpur and back by the shortest route.

Applications from within India must be made on prescribed form obtainable free of charge from the Registrar of the Institute by sending a self-addressed unstamped envelope of 25 cm. x 10 cm. size. Applications should be accompanied by a postal order for Rs. 7.50 (Rs. 1.87 for SC/ST candidates)

Applicants from abroad may apply on plain paper in duplicate enclosing a complete bio-data and name of three referees from whom reference letters may be obtained.

All applications should reach the Registrar, Indian Institute of Technology, IIT Post Office, Kanpur-208016 (India) on or before **August 20, 1977**.

TECHNICAL TEACHERS' TRAINING INSTITUTE, CHANDIGARH

Applications are invited for the undermentioned posts :

1. Professors in the scale of pay Rs. 1500-1800 :

Educational Management	—1	Minimum period of experience in teaching and industry — 10 years
Civil, Electrical, Electronics and Mechanical Engineering	—1 each	
Science (Physics)	—1	
Training & Placement	—1	

2. Assistant Professors in the scale of pay Rs. 1100-1600 :

Education.	—1	Minimum period of experience in teaching and industry — 7 years.
Civil, Electrical, Mechanical Engineering	—1 each	
Science (Physics)	—1	

3 One Senior Electronics Engineer in the scale of pay Rs. 1100-1600. Minimum period of experience in teaching and industry — 7 years.

4. Lecturers in the scale of pay Rs. 700-1300 :

Civil, Electrical and Mechanical Engineering One reserved for SC/ST	—1 each.	Minimum period of experience in teaching and industry — 3 years.

All the above posts carry allowances at Central Government rates.
Upper age limit is 35 years for Lecturers and 48 years for other posts.

Application forms with detailed information regarding qualifications and experience required may be obtained from the Principal, T.T.T.I., Sector Chandigarh-160026, by sending self addressed envelope (28 cm x 12 cm). The date of receipt of completed application form is **18th August, 1977.**

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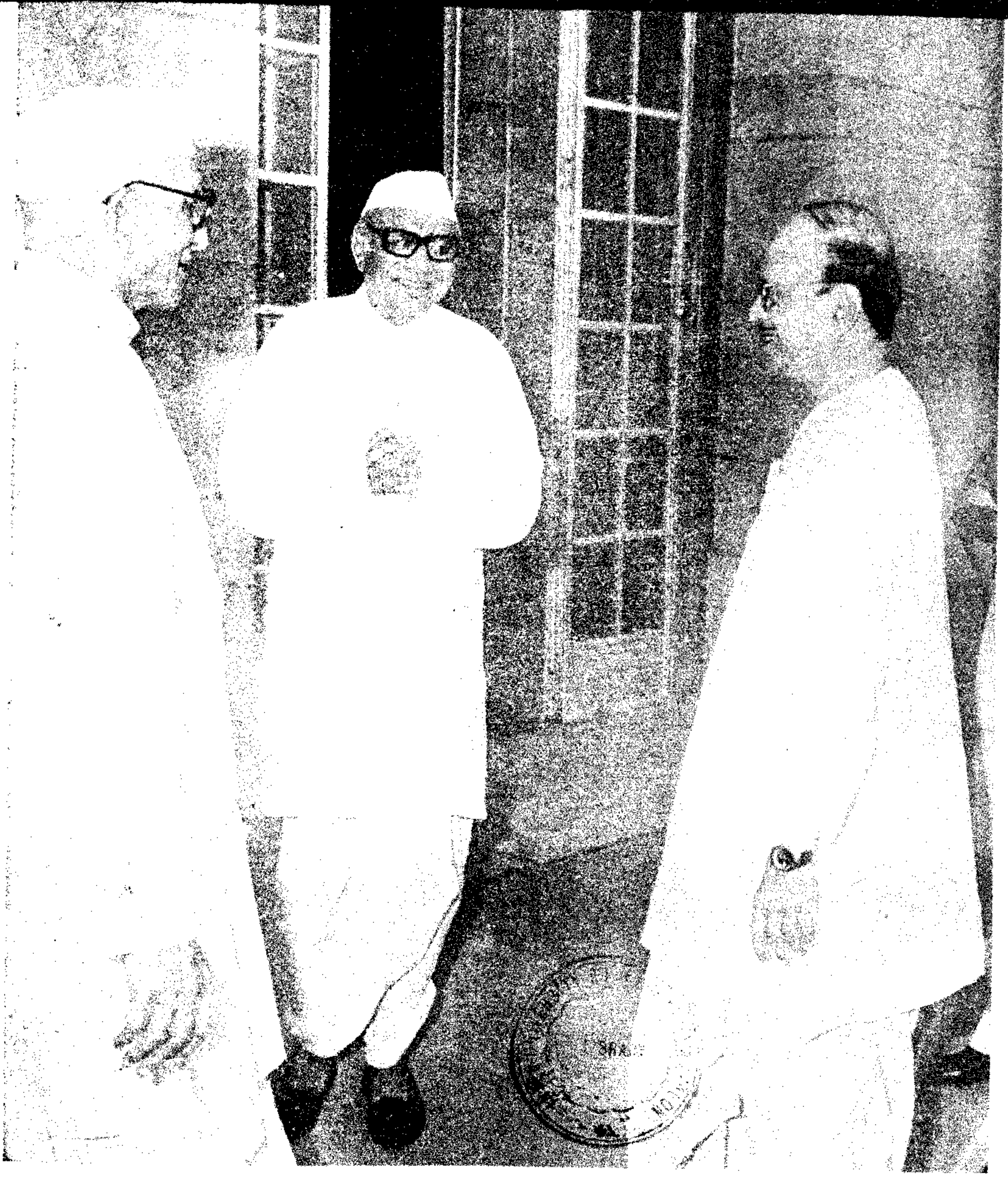
University News

A CHRONICLE OF HIGHER EDUCATION & RESEARCH AUGUST 16, 1977 80 PAISE



hri Ishwarbhai Patel welcoming the Prime Minister and Union Education Minister at the NCERT meeting.

SRI VENKATESWARA UNIVERSITY

Applications in the prescribed form are invited so as to reach the Registrar, Sri Venkateswara University, Tirupati-517502, A.P., on or before **3.9.77**, for the following posts in the S.V. University College of Engineering, Tirupati:

1. PROFESSOR IN CHEMICAL ENGINEERING
2. READER IN CHEMISTRY

Scales of pay

Professor : Rs. 1100-50-1300-60-1600
Reader : Rs. 700-50-1250
(Implementation of Fifth Plan UGC Scales of Pay for the Engineering College Staff is likely)

Qualifications

PROFESSOR

- (a) A first or high second class (B Plus or 55% and above) of a Postgraduate Degree in Chemical Engineering.
- (b) Ph.D. Degree in the concerned subject or equivalent research work publshed in standard journals.
- (c) Not less than 10 years of experience in a responsible position in design/construction/production/research/teaching in chemical engineering/consultancy industry of which at least five years should have been in teaching.

Desirable

Experience in guiding research and evidence of original work in design/development.

READER

- (a) A first or high second class (B Plus or 55% and above) Post-Graduate Degree with specialisation in Modern Chemical Instrumentation/Chemistry of Pollution.
- (b) Ph.D. Degree in the concerned subject or equivalent research work published in standard journals.
- (c) Not less than five years of teaching experience.

Desirable

Experience in guiding research and publications in standard journals.

The prescribed application form can be had from the Registrar, Sri Venkateswara University, TIRUPATI-517502, Andhra Pradesh on payment of Rs. 5/- either by Andhra Bank/State Bank of India challan or by crossed Indian Postal Order for Rs. 5/- in favour of the Registrar, S.V. University, Tirupati, payable at the S.V. University Campus Post Office, TIRUPATI.

The University reserves to itself the right to fill or not to fill the above posts; to relax the above qualifications when candidates with the prescribed qualifications are not available and to consider and appoint persons who may not have applied.

Sd/-
M. J. Kesava Murthy
REGISTRAR

UNIVERSITY OF JAMMU
NOTICE

Applications on prescribed form are invited for the following posts so as to reach the Registrar on or before **August 30, 1977.**

1. Reader in Economics in the scale of Rs. 1100-50-1300-75-1600 already advertised (Specialization; Econometrics/Mathematical Economics/Economic Statistics).
2. Lecturer in the scale of Rs. 700-40-900-EB-40-1100-50-1300 in the following subjects :
   - (i) Economics (Specialization in Economics Statistics).
   - (ii) Education.

For full details and prescribed application forms, please apply by sending a self addressed envelope of 25 cms x 10 cms size bearing stamps worth Rs. 1 50 paisa alongwith a crossed postal order for Re. 1/- drawn in favour of the Registrar, University of Jammu, Canal Road, Jammu (Tawi) J & K State cashable at Jammu Post Office.

Sd/-
REGISTRAR

THE UNIVERSITY OF KASHMIR SRINAGAR
NOTICE

I. Applications in the prescribed form are invited for the post of Lecturer in French in the pay scale of Rs. 700-40-900-EB-40-1100-50-1300

II. Essential qualifications

- (a) Consistently good academic record with at least a high second class Master's Degree in French or an equivalent qualification from an Indian/Foreign University;
- (b) A Doctorate degree or published work of an equally high standard; and
- (c) Some teaching and/or research experience.

III. Desirable Qualifications

Diploma in teaching language by audio-visual method and in French Phonetics from a recognized institution in France.

IV. The prescribed application forms can be had from the Registrar, University of Kashmir, Hazratbal, Srinagar-6 on cash payment of Rs. 6/- or by sending a crossed postal order drawn in favour of the Registrar cashable at Srinagar Post Office along with a self addressed envelope (5″ × 11″) with the necessary postage stamps While making a request for the application forms, the candidate is advised in his own interest to send his/her detailed curriculum vitae.

V. Seven copies of the application, each accompanied by attested copies of degrees/certificates and other testimonials should reach the undersigned by or before **August 27, 1977.**

Note:

1. It will be open to the University to consider the names of suitable candidates who may not have applied. Relaxation of any of the required qualifications may be made in exceptional cases in respect of any post on the recommendation of the Selection Committee.
2. Applications by Govt. servants should be sent through the Administrative Secretary concerned, by the University teachers through the Registrar and by persons employed by Private Firms and Institutions through the Head of the Firm/Institution concerned. Applications not routed through the respective channels will not be considered
3. Selected candidates will be placed on probation for one or two years on the basis of their merit.
4. A suitable higher start may be considered for candidates with higher qualifications.
5. Canvassing in any form by or on behalf of the candidate will be a disqualification.
6. The selected condidates will have to produce the original documents relating to their age, qualifications, experience etc. before joining the appointment.
7. The selected candidates will have to present themselves for an interview and they will be paid T.A. at the following rates:
   - (i) Return actual second class railway fare, from the candidates nearest railway head to the place of interview or in case the applicant is already employed, actual return railway fare of the class to which he/she may be entitled according to the rules of his/her employer, provided a certificate to this effect is produced with the T.A. bill. The money receipts from the Station Master of the concerned Railway Station in lieu of the tickets must accompany the T.A. claim.
   - (ii) Return actual bus fare from Srinagar to Jammu or from Jammu to Srinagar, if interview is held at Jammu or Srinagar.
   - (iii) In case of candidates belonging to the State actual bus fare from their respective home towns upto Srinagar/Jammu and back.

No daily allowance will be paid.

(Saif-ud-D[illegible] Soz)
REGISTRAR

UNIVERSITY NEWS

Vol. XV AUGUST 16
No. 16 1977

A Fortnightly Chronicle of Higher Education Price 80 Paise

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Opinions expressed in the articles and reviews are individual and do not necessarily reflect the policies of the Association

Editor : ANJNI KUMAR

Problems of small colleges in Punjab

Amrik Singh

According to the Third Educational Survey, out of 173 colleges in the Punjab as many as 109 have an enrolment of less than 400. In fact 19 have an enrolment of less than 100, 43 range between 101 and 200, 32 between 201 and 300 and 15 between 301 and 400. The cut off point has been selected at 400 because, according to the UGC regulations in this behalf, unless a college has a minimum enrolment of 400 it is not even eligible for UGC development grant. According to the UGC data available, the affiliated colleges in Punjab received a per capita grant of Rs. 7.85 in 1971-72 as against Rs 22.1 in Tamilnadu, Rs. 21.52 in Uttar Pradesh, Rs. 20.56 in Maharashtra, etc. There is only one State which has got a lower per capita grant than Punjab and that is Himachal Pradesh which got Rs. 4.52. Clearly to create a situation where most of the colleges in Punjab render themselves ineligible for UGC assistance is to put oneself at an institutional disadvantage.

Some years ago Prof. Lakdawala, the Deputy Chairman of the Planning Commission carried out an analysis of colleges in Gujarat. According to him, it is with an enrolment of 800-1000 that the per capita cost is the lowest and academic efficiency the highest. In terms of this yardstick, 31 colleges alone out of 173 fall in the category of those between 501 and 1000. As in respect of other institutions, the size of a college is a matter of some significance.

In this context the following points require further consideration.

(a) There can be no rule of the thumb to cover every situation. In certain cases some of these colleges would have to be closed down. In certain other cases they would have to be merged with some other colleges. In certain other cases they may be enabled to construct hostels, add to their facilities and improve their general performance so that if enough school-going students are to be found in the neighbouring area such a college or colleges can look forward to better growth and stability.

(b) Even if some of the colleges are not closed down or merged with each other, a certain degree of

(*Continued on page* 433)

Some Issues in Higher Education

G. S. Mahajani*

The issues in higher education can be easily stated, though not as easily resolved to our complete satisfaction. Each one of us, I dare say, can according to his capacity and experience, suggest answers to the questions that arise. Here are mine.

I would list seven issues as under:

(i) Mass-higher education is being accepted as the goal, all over the world. To what extent and how shall we travel in that direction?

(ii) How to reconcile expanding enrolment with maintenance of standards?

(iii) Relations of the State and Universities. How to withstand pressures?

(iv) Curriculum construction to suit relevance to our times.

(v) Examination reform.

(vi) Teaching methods.

(viii) Size of an institution.

Before giving my remarks in respect of these problems, let me briefly point out two elements in the background and contemporary thinking on higher education.

First, Universities, as we know them, have been in existence for over 600 years and we do witness an evolution in the university concept and its functions.

(a) In the times of Bologna of Salerna Universities, students were trained for certain professions—law, medicine, church.

(b) Oxford and Cambridge Universities functioned as nurseries for gentlemen scholars, statesman and administrators.

(c) Gothingen and Berlin Universities acted as centres for scholarship and research.

(d) Charlottenburg and Zurich functioned like a staff college for technological experts and specialists.

Broadly speaking, from Newman's idea of a university producing gentleman scholars, who could in his times fit in any public office, through Flexner's emphasis on research-function, we have now come to Clark Kerr's exposition of a multiversity.

Secondly, universities the world over have been as pointed out by J.A. Perkins (US), overwhelmed by five crises, viz: (i) crisis of finance, (ii) of numbers, (iii) of relevance of the curriculum to life, (iv) of new priorities and, (v) the crisis of new scepticism. The debate has produced and is producing considerable literature. In addition to the writings of Perkins, Ashly (UK), Clark Kerr (US) etc., we have the occasional papers put forth by the International Council of Educational Development, Robbins report and not the least the Carnegie Commission's recommendations. This Commission before submitting the final document published 21 preliminary reports on various aspects of higher (post-high school) education.

Let me now proceed to offer my remarks on the issues mentioned.

(i) Mass higher education

With the acceptance of democratic and socialistic ideas, higher education can no longer be confined to the elite. It has to be thrown open to the masses such of them as desire it. The +2 stage in 10+2+3 must not be split up. 11th and 12th classes must be together. After the +2 stage, however, admission to stage +3, will have to be selective.

The formula "10+2+3", should be read as Matriculation+2+(2+1), indicating that for **a** pass degree 2 years suffice and for honours etc., 3 years are necessary.

(ii) Expanding enrolment and standards

The reconciliation lies in Ashly's telling expression "More need not mean worse: more means different". This is to say, standards need not deteriorate simply because we admit more students, **provided** that—

(a) appropriate, diversified (**different**) courses are offered to suit the differing capacities and choices of the increased student-mix, during the +2 stage (11th and 12th grades). These two grades will have to be kept together with colleges or better in two-year junior colleges. Polytechniques should be integrated with junior colleges—for vocational courses.

(b) students are allowed to study, each at his own pace, and to collect the required number of credits.

Under such arrangements **quality performance could be expected and should be insisted upon.**

(iii) Relations of the State and the Universities

Let us recognise the fact that we have emerged into an era in which the solution of our educational, socio-economic problems will depend increasingly not so much on university autonomy as on the joint collaboration of the State and the University.

The reason is that nowadays the areas of their roles overlap. The State while mainly concerned with the spread of basic, primary education spends sums on high research, the university on its part while mainly responsible for teaching and research has also accepted the additional function of service to the community. This function of serving the common man has opened up a vast area in which the university has to cooperate closely with the State.

Then again even the old concept of autonomy never meant absolute autonomy. In 1948, Sir Walter Moberly (Chairman of U.G.C. of U.K for many years) made the following classic statement:

"On any shewing, universities are powerful and influential corporations and they perform functions which are of high public importance, so that in no country can the supreme political authority be completely indifferent in the affairs of the university. It does and it must exercise some measure of supervision over them. Nowhere is university autonomy absolute or unconditional. That is the first of my assumptions. My second assumption is that a high degree of autonomy is absolutely necessary if the functions of universities are to be properly performed".

---

* *ex-Vice-Chancellor, Poona University.*

Let me add in this context, that of the four freedoms, so far enjoyed by the universities, to decide—

Who may teach,
What may be taught,
How it shall be taught, and
Who may be taught,

the first one is most important and should not be eroded by public pressures or state directives.

(iv) **Curriculum construction**

The points to be remembered are :

(a) exposition of knowledge cries for the inclusion of new items in the syllabus; but

(b) only so much can be taught as can be truely learnt; therefore

(c) teachers must decide what old stuff can be cut out without loss of continuity,

(d) the syllabus has to reflect the points where a particular subject touches other subjects. This is a step for inter-disciplinary approach.

(v) **Examination reforms**

Points to be remembered—

(a) Examination cannot be abolished.

(b) The evil lies not in their multiplicity, but in the chance element which enters, if promotion depends on a single test at the end.

(c) Two measures are suggested—grading and question bank.

(d) Initially, grading be based on marks obtained which should never be divulged.

(e) There should be a question bank of 30 to 40 question for *each* paper. In that question paper half the number of questions (5) must be from the bank. This certainly and the reasonably small size of the bank will induce students seriously to study the subject.

(vi) **Teaching methods**

Universities Quarterly in 1970, 1971 devoted a number of articles on this subject.

Short of having tutorials in small groups of students—which calls for additional staff and finance—one thing can be done even in present circumstances. Every teacher should divide his lecture period into two parts 4/5th and 1/5th. The fifth part at the end should be devoted to questions, answers and discussion. This will create motivation among students.

(vii) **Size of an Institution**

The University Commission recommended 1500 as the maximum strength for a college. For economic viability, it should not fall below 500. In this context let me summarise the thinking of the Cernegie Commission.

Some institutions are too small to be effective either in the use of their resources or in the breadth of their programmes they offer to students. 'The cult of intimacy' has its academic limits. A critical size is necessary for successful educational endeavour. So certain 'peril points' should be borne in mind below which management should examine their special history, the location, the purpose and the philosophies to determine whether the small size is desirable.

On the other hand, some institutions engage in mindless growth and subscribes to "the cult of gigantism"—that bigger is always better. And many state finance agencies assume that bigger is at least cheaper. Academic quality does not increase beyond a modest size. Hence institutions should carefully examine their growth (development) plans. as they exceed certain limits "the points of reassessment".

Problems of small colleges in Punjab

(*Continued from page 431*)

rationalisation would have to be undertaken. For instance, if in two colleges within a few miles of each other there are certain subjects which are not attracting sufficient number of students, it may be so arranged that that subject is discontinued in one college and all the students migrate to the other college. Adjustments of this kind are unavoidable and must be made so as to solve the problem rather than perpetuate it.

(c) Even when colleges are not closed down and the kind of rationalisation referred to at (b) above cannot be undertaken, it should still be possible for a teacher to be on the staff of one college and go to work in another college. Once again these are matters of accommodation with the existing situation.

(d) Most students who come to the small/rural colleges have not had good schooling. There is considerable scope therefore for what is called remedial teaching. The focus of this kind of teaching would vary from subject to subject. It would be best therefore to organise meetings of teachers connected with a particular subject so that experience can be pooled and new techniques and measures devised.

(e) The grant-in-aid code used by the Department of Education must be revised to take into account the special situation of these colleges. To apply the same yardstick to a college with 1800 students as to a college with 200 students is neither administratively sound nor academically helpful.

(f) A perspective plan in regard to each one of these colleges must be prepared. The most convenient span of time to take into account should be three years. Not only that, the situation must be reviewed every year. If in the following year the college has not shown any progress it should be given only one more year to do so. At the end of the second year a decision must be taken to wind up the college. Lest this should be regarded as unduly harsh, one must never forget that higher education today is receiving much more from the State than is justifiable. For every student at college as many as 20-30 students are being prevented from attending a school. □

Rejuvenating the University Administration

D. K. Ghosh*

In the context of our many faceted potentiality of education and the ambitious programme of educational planning aimed at meeting the needs of the socio-economic planning of this country, we must inject new zeal and vigour in the administration in order to stimulate the spirit of creativity, initiative and above all a keen sense of team work. We spend about 500 crores per-annum on higher education which is a sizeable amount, considering not the needs of higher education, but the total budget of the country and, therefore, it is necessary for every one of us to ensure that we really get the best result from every rupee spent. But this pre-supposes a well-knit and trained administration.

While our universities have, in the last one decade strengthened the teaching departments both by addition of good professoriate and by providing sophisticated equipment which have, in at least some of the universities and institutions, brought satisfactory results some of which could even be compared with international standard, nothing has been done to re-vitalise the administration which plays vital role at every stage of the university system. Since the administrative wing in the universities is an integral part of the university system, it is in the greater interest of the system that the administrative wing should be reinforced through the necessary in-service training courses and by modernising them so that the administration can meet the challenges of new dimensions in education.

Every field of work has its special needs and, therefore, specially trained persons are certainly more useful in the special job. We are living in an age of space and specialisation and it need hardly be emphasised that the university administration which is an area of delicate problems, mishandling of any nature may prove fatal. Thus, it is not a matter of mere rules-making unit but more of 'human relations' requiring special skill which pre-supposes a good background of education, its objectives and sufficient understanding of the psychology of teachers and students. A number of 'ills' generate from inefficient management from which neither the teachers nor the students can escape which ultimately impair the objectives of education. Since universities are autonomous bodies and are free to work within a given area of work, it is obvious that they should have the necessary expertise also to determine their 'plans and priorities.'

Paradoxically, hardly has any attention been given to the needs of recruiting the personnel from these points of view or to train them through the in-service courses. Recognising this need, the Kothari Commission observed "Administration is essentially a matter of faith and vision, bold and courageous leadership and proper handling of human relations. The importance of securing the right type of personnel for it cannot, therefore, be over emphasised."

Our system of university management is one based on the collaboration of work between the Administrators and the educators. The system is such that although at almost every stage, educators have to participate in decision making processes, the stamp of official initiative and background is often borne in them. It cannot be rejected that a good deal of good result from the investments in education, depends on the performance of the administrators in a number of areas of the university system.

No less important is the process of implementation of decisions, in the course of which, many of the important schemes and decisions get lost either due to mishandling or the absence of a lack of proper understanding and appreciation on the part of the executors in the administration. While this is not desirable and is contrary to the expectations, the fact remains that because all executors do not possess the requisite background for a proper understanding and appreciation for the academic schemes, this happens. What is essentially needed is an academic-based approach to deal with the academic problems and schemes. Contrary to this, one would agree that due to lack of initiative and understanding, not infrequently, important schemes fail either due to delay or defective approach for implementation. The shortage of properly trained personnel in the set up of our educational administration has also been pointed out by the Kothari Commission.

Since the emergence of the University Grants Commission as the authority to assess and finance the developmental activities of the universities, more and more emphasis is being laid on planning. In the matter of planning in Indian universities, a good deal depends on the administrative organization, procedure and potentiality. Planning has assumed more importance in the context of changing approaches to social demand for more, better and relevant education'. Ours is an essentially poor country where public money should be utilised in the best possible manner so as to avoid wastage. Still greater care is needed in education which always suffers from short allocations. For this, what is primarily needed is the concept of suitable '*Area Planning*' which can be done only by such personnel in the field of education who have :

(a) fuller background of our education system.

(b) complete knowledge of the needs in the university keeping in view of its past achievements, potentiality and needs on a priority basis and in a phased manner.

(c) fuller idea of the needs of the region in education and what the society around requires in the context of National Educational Policy.

Unless our university personnel is suitably trained to accept the new challenges in education, it would be hoping against hope that it would properly respond to the needs of the system. Not only in-

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**Registrar, IKSV, Khairagarh.*

service training courses, holding of conferences and seminars would also go a long way in meeting this need.

Apart from the requirements of proper planning, a broad-base training would be helpful to the university personnel to handle the problems of teachers and students in the university campus with greater understanding and would contribute to the building of a corporate life in the university.

Obviously, to meet the special needs of the University administration, it is high time that there should be suitable in-service training courses for the university personnel which should be different for different categories of personnel keeping in view the job-requirements. The training course should be so designed as to provide a broad-base for the entire educational master plan together with a background of the Indian system of education. Suggested below is a scheme of Papers for such training:

Paper-I	History of Indian Education—Ancient and Modern.	100 Marks
Paper-II	A General Study of the Post Independence . Reports of various Commissions on Indian Education.	150 Marks
Paper-III	Academic set-up of Indian Universities.	100 Marks
Paper-IV	Academic Planning and Execution.	150 Marks
Paper-V	Management System in Indian Universities and their present merits and demerits.	150 Marks
Paper-VI	Behavioural Aspects—Relations of— (a) Administration with Teachers (b) Administration with Students. (c) Administration and Educators with Students.	150 Marks
Paper-VII	Case Study—Given Problems of various nature seeking solutions.	150 Marks
Paper-VIII	Study of the Indian Constitutional Provisions on Education and Centre-State Relations on Education.	100 Marks
Paper-IX	General Study of the Pattern of Secondary and Higher Education in developed and some of the developing countries.	100 Marks

I have only made a general suggestion for framing a syllabus for a broad-base training. It would be in the fitness of things that the University Grants Commission considers this aspect of university need and frame, in collaboration with the National Staff College for Educational Planners and Administrators and the Administrative Staff College of India a suitable syllabus. ☐

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The Role of the Third World Countries in International Monetary Reform of 1971-75

The Second Amendment to the Brettonwoods Agreement leaves the bulk of the proposals made by the developing countries in the cold. Such benefits as have been described by me earlier are small benefits, more in the nature of sops. The richest member of the Fund when it suited its national interest side-stepped the Fund regulations and the widely held views of Fund members and established floating rates for its currency, forcing many other countries to follow suit. The countries with floating currencies will be hardly amenable to Fund discipline in their domestic or external economic policies and the poorer ones who will in the long run be the user mainly of Fund resources will be liable to Fund prescriptions on their domestic policies. They have to bear higher charges and the rich countries will receive what is euphemistically described as remuneration, but which in reality will be the market rate of interest for short term borrowing, a situation that is hardly flattering to the concept of a cooperative world enterprise established to achieve high economic goals. The unwillingness of the rich nations to share with the very large number of developing countries of the world, the policy making powers continues to enshrine the distrust in which the richer countries hold their poor relations on this planet. The Fund, after all the elaborate negotiations that have been held, has not shed any of the attributes because of which it has earned the not very flattering reputation of being a rich nation's club. It has had able and conscientious Managing Directors. Certainly so are the present and the previous Managing Directors who had laboured hard to make this world organization a better place for all of its members. But their efforts are adulterated and thwarted in many subtle and sometimes not too subtle ways. One of them who dared to suggest that some of the tall members in the club should also carry out their obligations to the Fund, had been shown the door out right in the midst of these negotiations. Internationalism is not yet a well developed or stabilised way of life. It often goes out of the window when nationalism enters by the door. Developing countries who need these international organizations more than their rich cousins do have quite an uphill task in rendering international institutions truly international.

The developing countries will therefore need a lot more disciplined leadership, skilled and efficient coordination of their own diversity of interests which are often in conflict with their aspirations. If they have to achieve their objectives they should, in my judgement, perservere in pressing on with the pursuit of these objectives and seek to work out a plan for a third amendment to the Brettonwoods Agreement that would render this very important instrument for international monetary regulation a truly international organization, not only in name but in its spirit and functions. That is not going to be easy and is unlikely to be achieved in a short while; but on the other hand, there are many good countries and people even among the rich nations, and with their help and collaboration it should not prove to be too formidable a task.

In summing up this necessarily sketchy discussion, I wish to record the following impressions:

1. After four years of protracted negotiations the reform of the international monetary system has hardly embodied in it any of the worthwhile changes advocated by the developing countries. Most amendments were those sought for the benefit of the developed nations.

2. With a view to placating the developing countries, the richer nations have offered some modest benefits like the Trust Fund and Subsidy Account but these are benefits which the developed countries offered mainly as consolation prizes and do not constitute part of the Fund's structural and operational content like the link, for example.

3. One inference to draw from this experience is that given the power structure as embodied in the Fund constitution with a weighted system of voting, whatever the Ten richer countries want to decide alone gets accepted; and the developing countries seem to have little ability to have their concepts, however, technically valid, embodied into the Fund's Articles of Agreement.

4. The Fund is still very far from being able to operare as an effective authority for international money management, but the speed with which it can grow into such an organization is severely limited by the resistance inherent in the forces of nationalism, especially the extreme sensitivity to their own sovereignty of the bigger nations. They are willing to discipline and regulate the smaller nations with the help of the Fund machinery in respect of their policies but are unwilling to accept any suggestions for the regulation by an international agency, when it comes to the fulfilment of obligations by the richer nations of the world, though not all the rich nations are of that kind.

Excerpts from the address of Dr P.S.N. Prasad, Honorary Professor of Economics delivered on the occasion of golden jubilee of Andhra University.

5. Given all the circumstances this should not surprise any one, but in such a climate the growth of a truly balanced international management of money, has to remain an ideal for a long time to come and results cannot be achieved quickly.

6. Yet, the developing countries cannot remain indifferent, nor should they give up the vigorous canvassing of proposals designed to enhance the quality of this management from the point of view of its universal excellence rather than excellence in favour of certain powerful and sectional groups within the world community.

7. For this purpose groups like the group of 24, will in my view, have a very essential function to perform, and the degree of their strength will depend upon, how well an efficiently they organise themselves and make themselves felt. Their performance in the 1971-75 negotiation has been rather feeble in relation to the formidable strength and skill shown by the rival group.

8. Despite the need for a group of developing countries to continue their campaign, this should not be done in the manner of a confrontation, either in form or in spirit. The essential fact is that as an international organisation, it is a structure of the world community as a whole, and the rival groups perhaps will perform better, if each of these groups stretches its hand of cooperation across to the other group. Among the group of rich countries, there are quite a number, especially the smaller nations or those with a better developed conscience for international obligation, who share some of their beliefs and aspirations with those of the poorer nations. The endeavour should be to develop contacts and understandings with them to widen areas of collective agreement. Equally, the developing countries, which are much larger in number, have their own conflicts of interest, some of which had contributed to the weakening of the performance of the developing nations group. Therefore, the more the groups strive to broaden areas of understanding and agreement between them the more rapid will be progress towards a more technically well-balanced international management of the money structure, which is after all a very important instrument for promoting the growth of the world's resources and the realization of benefits that flow from it.

Functioning in that spirit the developing nations should over a period of time prepare and canvass for a third amendment to the articles of the Fund agreement, and for achieving a more healthy distribution of the decision making power structure in the Fund organisation.

Educational trends in Punjab

A seminar on the present state of education in Punjab was organised by the Association of Principals of Small/Rural Colleges at Jullundur on 11th July, 1977. The seminar was presided by Shri Sukhjinder Singh, the State Education Minister.

Mr Prithipal Singh Kapur, the convener of the seminar at the outset pointed out that no structural change in educational pattern had taken place since independence. India continued to follow the old British educational pattern even after obtaining freedom from colonial rule. He raised the issues regarding the grants-in-aid system, the new pattern of education and other relevant aspects. Mr Jagjeet Singh spoke about the examination system and expressed the need for examination reform. Dr. Amrik Singh in his paper raised several important issues regarding the state of higher education in Punjab.

Dr G.D. Sharma of the Association of Indian Universities spoke on 10+2+3 pattern of education. He pointed out that in almost twelve States and Union Territories, there is fifteen years of first degree courses whereas in another fourteen States and Union Territoties, it is of fourteen years. Bringing about an uniformity in educational pattern, therefore, appears to be very reasonable. But this uniformity should not be brought about in a haste. There should be proper planning and phased implementation of the scheme. He suggested that a study about the knowledge gaps between fifteen years and fourteen years of first degree courses should be conducted. The syllabus for 10+2+3 should be prepared in the light of this aspect as well as the local requirements of the State.

One of the speakers who had been abroad narrated his experience and tried to suggest even sixteen-seventeen years of first degree course. Dr. Gopal Singh, talked about the general state of education in Punjab and lamented over the poor quality of education. Dr. Attar Singh pointed out that education system needs overhauling. Present education system has more or less served the elite class and it has not reached to the masses. The new pattern of education should, therefore, be so that it serves the masses. Unless this is done, he said, a time will come when forces from below would shatter the elite educational system. He also pointed out that our education system should be changed in the light of changed economic and social needs. Mr. Gurusharan Singh stated that B.Ed. colleges have not received proper attention.

Mr Sukhjinder Singh, Education Minister, in his concluding address pointed out that our education system should be such that it builds up character and makes persons fearless and firm about convictions. He stated that it seems this has not been done, otherwise emergency period in our country would not have lasted more than two to three months. While thanking the participants he said that he was greatly benefitted from the proceedings and hoped that few more such discussions will be organised in the near future.

Role of Science in National Development

Mr. Homi Sethna, Chairman of the Atomic Energy Commission while speaking on India's scientific and technological growth at SNDT University in Bombay said that during pre-independence days scientific and technological developments in India were mainly confined to raising the production of raw material and consumer goods. It was the Swadeshi movement in 1905, he said that gave the needed impetus to Indian entrepreneurs. At the same time, in the absence of requisite government support, the accumulation of capital needed for the growth of the modern industry was insufficient. Industries such as iron and steel, sugar, cement and paper, the technology, plant machinery and skilled personnel were brought from abroad. Thus, at the beginning of independence the nation was confronted with innumerable problems. There was acute unemployment particularly in the agricultural sector. The population of the country had poor education and above all there was insufficient health care. It was because of these facts that India deliberately geared itself to the task of transforming its economic and social structure through a scientific process of planning.

Science and technology was called to play a vital role in the developmental efforts of the country—in the food and agriculture, education, health, communication, energy development and industry. The Council of Scientific and Industrial Research was set up in 1940 and a number of research institutes in different scientific disciplines were also established. In the major universities, basic research and a certain amount of applied research was carried out. The Ministry of Defence, moreover, had a number of establishments which were engaged in research.

Mr Sethna said that in the post-independence period, the electronics and the space programmes of the Union Government were organised as autonomous government departments. These programmes were expanding at a rapid rate. A programme for developing the peaceful uses of atomic energy was also evolved. The Electronics Corporation of India which also manufactured TV sets is a symbol of transferring research and development into production.

CAMPUS NEWS

Short term training modules for teachers

A number of short term competency based training modules have been developed by Model Institute of Education and Research, Jammu. This institute is concerned with the development of educational research in India and other developing countries. It is currently handling research projects on behalf of the National Council of Educational Research and Training and the Indian Council of Social Science and Research. It is offering three months modules through correspondence in the following areas; 1. Examination technology 2. Successful classroom teaching. 3. Modern educational trends. 4. Educational management and administration 5. Child care and education.

Apart from these courses, a research Associateship in education course of six months duration is also being offered as a preparatory course for those intending to complete their M. Phil and Ph.D. programmes. It also provides opportunities for action research to the teachers in schools and colleges. Through these courses, teachers both prospective and inservice in schools, colleges and universities, health and social workers, employees of the universities, boards and other State Governments and personnel working in adult education, continuing education and non-formal education programmes would be able to get specialised training in the particular areas. For evaluating these candidates, open ended assignments of practical nature are proposed which shall replace traditional tests and examinations. The syllabi are most modern and research based keeping in view the needs and problems of teachers.

The institute is also conducting a postgraduate diploma course in education through correspondence since 1975. It has brought about many innovations in the field of teacher education. Fellowship in education is also offered by the institute to those offering a research programme in any field of educational activity.

Changes introduced in Osmania

A committee cosisting of leading educationists was appointed by Osmania University some time ago to give a new orientation to the Faculty of Education. Several innovations have since been introduced based on its recommendations. A two-year MA programme in education has been instituted from this academic session. The programme primarily aims at preparing student for study and research of basic issues and problems in the larger field of education and preparing them to hold positions of research, planning, policy making and administration in the field of education. Graduates in any subject are eligible to apply for the course.

The Department of Education has also introduced a diploma in collegiate education. This one year evening course is open to postgraduate in any subject who are already teachers in colleges or who plan to take up collegiate teaching as a career. This will fulfil the need for growing padagogic training which has been emphasised by several authoritative bodies.

The third innovation is the introduction of education as a subject of study and training at the first degree level. Education is now included among the three optionals available at the first degree level. It is expected that the faculty will attract motivated students to opt for teaching as a career even at an earlier age and not as it often happens as a last alternative. This will also help towards integrated training in content subjects and teaching methods which is not fully emphasised in the present B.Ed. programme. Such candidates will also be better prepared than many untrained graduates who are presently employed by a number of schools. A special feature of this course is that teaching practice and theoretical preparation are being made in three streams, to train people to teach in urban schools, rural schools and tribal schools separately. This will go a long way in attracting well trained teachers in important subjects like Mathematics, English, Physical Sciences to rural and tribal sections, thus serving the university's social commitment to the weaker and poorer sections of the societies.

The university is also considering the proposal to start evening classes for B.Ed. students in at least one of the teacher training colleges to enable untrained in-service teachers to qualify themselves. This would avoid lot of inconvenience - and would also minimise the dislocation of work in the schools considerably where these candidates are working. There is also a proposal to start correspondence courses for the M.Ed. course.

These measures are being taken with a view to see that the field of education, which had hitherto remained entirely as a field of knowledge including study, research and training. This way education would not any more be an ancillary discipline by itself on the analogy of management science.

Problems of Calcutta University reviewed

The West Bengal Minister of Higher Education, Mr Sambhu Ghosh held prolonged discussion with Dr Sushil Kumar Mukherjee of Calcutta University in connection with the holding of examinations on time and publishing the results withont much delay. They also discussed various administrative and academic problems of the university.

During discussion the question of payment of remuneration to examiners assessing the answer-books was also reviewed and it was felt that for the speedy disposal of the evaluation work, the examiners should be remunerated. The State Government has already urged the Centre and the UGC to restore the examiners remuneration immediately.

As regards mass copying prevalent in some examinations it was suggested that immediate steps should be taken to check these malpractices which was the outcome of making the syllabuses too heavy. Adequate number of classes were not held in the colleges to complete the courses. In the postgraduate classes and professional courses like Medical and Law, there should be more full time teachers. Dr. Mukherjee said that the standard of education would not improve unless the students' unions were debarred from exerting their influence in matters of admission and examination results particularly at the postgraduate level. The Minister later had discussions separately with Mr A.L. Dias, Governor and Chancellor of the State universities on different matters concerning the university education.

Chicory seed grown in Himachal Pradesh

The agricultural scientists of Himachal Pradesh University have succeeded in growing chicory seeds for the first time in India. Chicory is an essential ingredient in any of the popular brands of instant coffee. It provides a special flavour and taste besides increasing its keeping quality. Kinnaur, with its ideal soil and temperature including chilling during winter months under knee-deep snow had earned the distinction of cultivating this highly remunerative cash crop.

The agricultural scientists started with the production of this seed as early as 1970. After long researches lasting for over six years, they could achieve the breakthrough in 1976 when 30 kg seeds were produced for test trials. The results were encouraging. Further research work has shown that the seeds of chicory produced in this area is superior to the seeds imported from foreign countries. According to the modest estimates, the average yield of chicory seeds per hectare is about 4 to 5 quintal which would fetch a handsome income ranging from Rs. 25,000 to 30,000 per annum. The cultivation is being taken up on a large scale as it is likely to bring a big boom for the farmers.

Jammu develops the new campus

With a view to meeting the expanding requirements of Jammu University and for providing a more congenial and disciplined atmosphere a new campus is being developed by the university on 125 acres of land at Bahuwali Rakh about 3 km from the city centre across the Tawi. An additional area of 100 acres has also been earmarked on the ridge of Bahu Fort. With the backdrop of mountains and the Tawi flowing closeby the site is ideally located for campus development.

The present campus came into being in 1969 when the university was established. It is located in cramped surroundings and very little space was available for its expansion. The university has been much concerned all these years for the development of new campus. The master plan envisages the construction of residential quarters for teaching and non-teaching staff and hostels for boys and girls. Gandhi Bhavan and sports complex have been planned. A shopping centre and an institute of music and fine arts will also be constructed. The academic complex will create the necessary climate and atmosphere conducive for the postgraduate studies and research in various subjects. A central library, and administrative block and an auditorium for 1000 persons will also be located in this area. The campus will be a self-contained complex to meet the requirements of students and teachers.

A network of roads have already been laid and the construction of the law block, a bioscience block and the library building is fast coming up. During the year, the construction of girls' hostel and staff quarters for the college and non-teaching staff would be completed. A number of other buildings are likely to come up in the new campus. The UGC has earmarked a sum of Rs 80 lakhs in the current plan to meet the development of the university including its construction work. The State Government has also provided adequate matching funds for this purpose.

B.Ed. and LL.B. (academics) degrees through correspondence have been started from the current academic year. The B.Ed. course will benefit the inservice teachers while the two year LL.B. academic course will be of particular help to Government employees. A person successfully undergoing this course will be permitted to join the third year professional course.

A two year postgraduate course in education leading to the degree of M.A. in education and a diploma in applied electronics are also being introduced. The present diploma course will be mainly concerned with television technology. The next course would be in medical electronics.

Training for farm scientists provided at Hyderabad

The Central Staff College for Agriculture has been recently established by the Indian Council of Agricultural Research in the rocky area of Rajendra Nagar in Hyderabad. A three months training-cum-orientation course is conducted for the benefit of young scientists coming from all over the country. The scientists are new entrants to the Agricultural Research Service introduced recently. Already three batches of probationers have completed their training programme under the guidance of Dr. N.K. Anant Rao, Director of the college. The fourth course commenced in July 1977.

The main objective of the programme is to provide training in some of the basic skills required in agricultural research and to develop an awareness of the rural setting and the rural socio-economic system. Apart from lectures and practicals, seminars and visits to institute or projects in rural areas are also arranged.

The trainees fully participate in the running of the affairs of the college. Committees with the students as members look after different assignments.

Dr. N.K. Anant Rao, former Vice-Chancellor of Pantnagar University is the Director of the Staff Training College.

Additional grant for Delhi colleges

Thirty colleges of Delhi University which are managed by private trusts are likely to receive additional grants from the University Grants Commission to meet their financial deficits. A committee which was appointed to study the additional expenditure incurred by these colleges after the revision of salary of the teachers has suggested a formula for sharing of the extra expenditure by the college trusts and the Commission. At present the Commission provides for about 95% of the college expenditure, 5% is being met from the interest on the endowment fund. But the expenses have gone up considerably and the interest from the investments on endowments is insufficient to provide the necessary cover. For quite some time Ram Lal Anand College, Dyal Singh College and Kirori Mal College have been under great financial strain. Even the richer trusts like Ramjas which manages the Ramjas College and Bharat Ram Trust which manages the Lady Shri Ram College for Women, Shri Ram College for Commerce and Hindu College have been complaining of money problems and have approached the UGC for necessary help. The Commission is likely to finalise its policy for assisting these colleges shortly.

B. Ed. Courses at PAU

The Academic Council of the Punjab Agricultural University has approved the proposal to institute Bachelor of Education degree in the Department of Extension Education from this academic year. The course will increase the employment opportunities for the graduates of agriculture, agro-mechanics and home science students of this university. It will also improve the teaching of agriculture in these subjects at the school level. The demand for trained teachers in the subjects already exists since a large number of such graduates are able to get employment in the schools. But mere graduates do not get the same privileges in salary, promotion, etc. as are admissible to B.Ed. trained teachers. The demand for trained teachers is likely to increase as the result of the introduction of vocationalisation and the introduction of the new pattern of education in various states.

Postgraduate course in Defence Studies

The MA degree semester course in Defence Studies was inaugurated recently at Madras. Air Vice-Marshal F.V.A. Scudder (Retd) is the Adviser and Head of the Department. He is assisted by Group Capt. Krishnamoorthi, a senior lecturer. To begin with twenty students including two women have been enrolled for this course. The central theme of the programme is the study of the internal and external threats that are facing the country. Emphasis would be laid on various methods to meet these challenges. It is expected that the students completing the course could seek entry into the army services as well as in public administration, journalism and international affairs. The course includes study of issues regarding national security, economic aspects of defence, military geography, psychology, war and international relations and the impact of science technology on modern warfare.

Change in media of universities

Dr. P.C. Chunder, the Union Education Minister, in a reply to a question in the Lok Sabha said that the Union Government is consulting the states on switching over the media of instruction in universities to regional languages. He also proposed to convene a conference of the State Education Ministers to discuss this question in detail. The conference is likely to be held in Delhi shortly. He said that while the Central Government would do everything to promote the regional languages, it was not something that could be imposed. To encourage the production of original textbooks in regional languages at the university level, the government had been making grants from time to time. During the fifth plan period a sum of Rupees seven crores have been earmarked for this purpose. Some State Governments had also constituted committees for this purpose. There was no dearth of teachers to give instructions in regional languages. The Minister said that there were certain linguistic minorities and their problems have to be considered. So it was difficult to fix a time schedule for the switch-over to regional languages in the institutions under the control of the Central Government.

Preliminary test suggested for science and technology admissions

The Government of Bihar is considering a proposal to introduce competitive tests for admission to science faculty and technical colleges. The proposal is likely to discourage unfair practices at all levels from secondary to postgraduate stages of education. The Government has taken a serious note and has suggested stern measures to check the growing indiscipline in students. The Vice-Chancellors have been advised to take immediate steps to check the indiscipline and ensure the normal functioning of the colleges and universities. The Education Department has assured all help to university and college authorities in the maintenance of peace and order. A radical change in the examination system is also contemplated.

Agro research analysis yields valuable data

An analysis of the recent all-India agricultural research examination results has revealed interesting data. More than 80 per cent of the 381 successful candidates beloged to families with an annual income of less than Rs. 10,000. About 27 per cent belonged to the income group of less than Rs. 5,000 a year. Nearly 60 per cent of the prospective research workers came from rural areas. By and large, agricultural research attracted students belonging to medium and low income groups.

The Delhi based Indian Agricultural Research Institute contributed the largest number of successful candidates (30) followed by Agra and Pantnagar Universities (28 each). Tamil Nadu Agricultural University came forth in this order (25). A little over 60 per cent of the candidates selected for agricultural research came from agricultural universities. The rest were the alumni of non-agricultural universities.

Jaipur concession for athletes

The University of Rajasthan will grant concession to outstanding players and athletes seeking admission to various courses in this academic year. Candidates who have represented India in International Tournaments or have played in the nationals, inter-university tournaments or school nationals at least once in the last two years will be eligible for admission to the undergraduate course irrespective of the marks obtained by them at the qualifying examination. However, for the postgraduate course such candidates should have secured the minimum percentage of marks prescribed for admission.

Those students, who had played in the Rajasthan University tournaments and have failed for the first time will also be eligible for admission. Other things being equal, preference will be given to those students who had represented their school, university or state. If a student who had been given admission for his proficiency in sports, did not turn up to the ground regularly for practice, his admission may be cancelled. These concessions will be applicable in the faculties of arts, fine arts, social sciences, science, commerce, law and sanskrit studies in all the hundred and thirty-five affiliated colleges of the university.

Re-organisation of Punjab Agricultural University

The Punjab Agricultural University, Ludhiana and the Panjab State Agricultural Marketing Board are to be re-organised in such a way that the two institutions play an effective role is stepping up farm production and services to the community. Mr. Balwinder Singh, Punjab Minister for Agriculture, stated in Chandigarh that there was scope for making changes in the board of management of the university with a view to inducting specialists in the field of agriculture. He wanted the university to lay special stress on the research of new strains not only of good grains but also of commercial crops. The idea was to enable the farmers to renew the old varieties of seeds some of which have become prone to all kinds of ailments. Such research work should be conducted at those places which are best suited for the crops and not necessarily at the university's campus.

Sports programme to be reviewed

The Central Government will undertake a comprehensive review of the various sports programmes and policies. The review would also cover steps needed to remove obstacles in various sports bodies militating against the promotion of sports in the country and to enable India to make a mark in international sports.

Dr. P.C. Chunder, Union Education Minister, told the Rajya Sabha that as the question had many ramifications including stipulations laid down by the various international sports bodies regarding the autonomy of sports federations it would take some time to complete the proposed review. In the meantime he has already initiated talks with the various sports bodies and individuals as a part of the review.

Diploma in American Studies

The Department of English, Osmania University, will conduct a diploma course in American studies on interdisciplinary basis. The admission to this course will start early in September. This year graduates in English literature, American literature, history, political science, psychology or philosophy would be eligible for admission.

UGC aid for Gandhian studies

The UGC will provide financial assistance to universities undertaking research work on problems of peace and on Gandhian thought and ideology. Dr P.C. Chunder, Union Minister for Education told Rajya Sabha that the Commission has already constituted a standing committee on Gandhian studies to advise the Commission on measures to be taken for developing studies and research on Gandhian thought.

Expenditure on education

It was stated in lok Sabha that the annual expenditure on education by the Union and State Governments comes to about Rs 1,832.5 crores. Of this staggering amount, Rs 866 crores is spent on primary education, Rs 590 crores on secondary education and Rs 366.5 crores on higher education including technical and university education and research. The State Governments determined their own expenditure, patterns depending upon their requirements.

Democratisation of the working of universities

The teachers in universities and colleges are these days in favour of a thorough democratisation within the departments and in colleges. They want rotation of headships and principalships among all the teachers, who have put in ten or more years of service. The trend is towards bringing about radical changes in the modes of execution and decision making.

The most important concern of any university department is to design and deliver courses for graduate and post-graduate students. The actual working of these courses will be constantly influencing the teachers in the form of students' response in tests and examinations. Without their participation in formulating changes in the syllabi, the working of the courses will not succeed. The present practice of syllabus making by boards of studies is tantamount to improving something from above and therefore, an emotional commitment on the part of teachers cannot be expected. If the courses are designed by the teachers of the department or college through discussions and mutual clarifications in a democratic manner, a sense of participation and responsibility gets installed and better results are sure to emerge.

In a postgraduate department, research work is a necessity. Adequate facilities for research and advanced scholarship have to be provided in the form of laboratories, books, journals. The propensities of the department and feasibility of programmes are known to the members therein and they, as a body will have to send proposals. It is ingenuous to expect that a single individual head will be in a position to fathom these possibilities and requirements. The proposals for facilities, substantive staff requirements and inviting visiting fellows must be arrived at democratically by the members of the department and such a practice will promote better participation of the faculty and will make the working of teachers more rewarding.

Any college or university department is a socio-intellectual community having its own traditions, necessities and collective ambition. The new recruit will naturally be expected to fulfil these requirements. So, in respect of recruitments also, the department as a body may be enabled to have the initial and final authority. At present, the major and decisive share in the process of recruitment is had by the so-called head of the department. This has resulted in a great deal of vested interest and academic inbreeding is taking place unabated. Fresh intellectual experience is thus denied to the growing minds. If all the teachers have a voice in decision making, this inbreeding can be minimised and the new recruit is likely to become collectively acceptable. In turn, research and scholarship becomes more meaningful.

One of the most pernicious of the vested interests in the field of university education lies in the system of examinations. Teachers, especially at the top echelons develop and foster contacts with their counterparts elsewhere in the country with a view almost solely to getting and offering examinerships. The UGC has commented on these vested interests in its plan to reform examinations. The lure of these contacts has blinded them to their socio-intellectual responsibilities and has refrained them from acting as promoters of educational growth. A democratic process in the internal administration of the university departments will have a sobering effect on these sub—academic activities of teachers.

When all the teachers of a department are perforce to have share in the academic decision making, the collateral requirements and experiences also begin to influence. A teacher of political science might get influenced from a Sociology teacher and the former may thus contribute to the making of a better and more fruitful course in his subject. The much-desired and much-talked interdisciplinary culture might get promoted.

There is an apprehension, especially in Government circles, that universities do not need as much freedom as is claimed to be necessary. They tend to say that the universities need to be constantly checked and called to order. This impression is most unfortunate and requires to be remedied. Freedom or autonomy of the universities is not the freedom of the Vice-Chancellor or the syndicate or the heads of departments. It is the freedom of the individual teacher and possibly student, in the context of academic contacts and pursuits. This has become smothered by the hierarchy-ridden university apparatus. If the university is enabled to function as a federation of independent and mutually dependent democratic organisms called colleges and departments, the individual teacher gets de-alienated and his work becomes relevant and worthful both to himself and his students and colleagues. The Governmental misgivings will automatically vanish.

To bring into effect all the above aspects of the democratisation process, substantial changes will have to be made in the structure of our universities and their hierarchy. To eliminate the predominantly non-academic undertones in the administration of a large number of colleges, the departments of the collegiate education need to be abolished. Smaller universities with simpler administrative paraphernalia could be counted and the colleges could be handed over to them. Concomitantly, the teachers will have to exercise greater willingness in undertaking never types of academic responsibilities as the general socio-economic climate of the country improves the conditions of the teachers also become improved and they need not be unduly worried about the latter.

Karnataka decides to pay college teachers through Cheques

The Karnataka Government has decided to disburse the salaries to private college teachers and non-tutorial staff from the public exchequer through cheques. This has been done in implementation of the agreement with the management of these colleges. The representatives of the privately managed institutions had prolonged discussion with the authorities of the education departments.

About 1,200 teachers and non-teaching staff of 200 privately managed educational institutions all over the state will be benefitted hereafter. But the implementation of this new scheme will cost the government additional expenditure of about Rupees one crore. It is estimated to cover about 98% of the management's expenditure as against the present financial assistance of 80% of the approved expenditure under the existing grant-in-aid code.

A similar facility is likely to be extended to other aided colleges under the private management e.g. the engineering, the B. Ed and junior colleges. The Federation of University and College Teachers Association in Karnataka had been very vocal over this concession for several years.

The private colleges management association has how demanded contributions of 3 per cent towards gratuity, under the Tripple Benefit Scheme for teachers. They claim that it should be treated as a part of the salary expenditure and should be met by the Government. The laboratory fee collected by the management should also be allowed to be retained by the management. The present system of reimbursement of the loss of income (at management rates) on behalf of the free scholars would be continued and no prior approval should be insisted upon for appointments made to the teaching and non-teaching staff. Apart from these, under the existing rules, no further restrictions be imposed on the management and they should be allowed to collect upto and double the standard rate of fee and there should be no interference with the existing autonomy and day to day working of the managements.

The Education Minister assured the representatives of the managements that the Government believed in the 'philosophy of private management' and would continue to maintain it though it was determined to firmly deal with the corrupt practices and irregularities in the management. He advised the managements to cooperate with the Government in successfully implementing the scheme as the money involved in both private and public sector was essentially that of the public.

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Student Unrest in Bangalore

(From our special correspondent)

Student violence in Bangalore during the second half of last month not only gripped the university for a whole week but resulted in much damage to public and private property.

It began with a one-day "University Bandh" called by the Bangalore University Students' Action Committee in support of its six demands. These included that student representatives should be elected not nominated on the Senate, the semester system should be abolished, all forms of donations obtaining in private colleges should go and that the fee structure in all colleges should be uniform.

Besides, it demanded the resignations of Mr Devaraj Urs, Chief Minister of Karnataka, and Dr H. Narasimhaiah, Vice-Chancellor of Bangalore University. The Chief Minister's resignation was sought on the ground that Mr Urs as Home Minister was "directly responsible for police excesses on students during the Emergency."

The Action Committee's grouse against the Vice-Chancellor was that he allegedly bought furniture worth Rs 3 lakhs without the approval of the Purchase Committee, continued a professor in his post without the approval of the Chancellor and allegedly praised the Emergency and spoke disparagingly of Mr. Jayaprakash Narayan,

On the day of "University Bandh", a delegation on behalf of the Students' Action Committee presented a memorandum containing the demands to the then Chancellor, Mr Uma Shankar Dikshit, Governor of Karnataka, at Raj Bhavan (Mr Dikshit relinquished the office of Governor on August 1 and Mr Govind Narain, former Defence Secretary, has assumed charge.)

Mr. Dikshit told the Action Committee delegation that complaints of "excesses" on students during the Emergency might be made to the Shah Commission of Inquiry appointed by the Central Government, for necessary action.

On the demand to scrap the semester system, the Chancellor said that it had been widely recognised as a good means of imparting and testing the absorption of knowledge by students. The UGC was in favour of the system and it would not be wise to scrap it without giving it a fair trial. He told the delegation that the Vice-Chancellor would be requested to appoint a committee to review the working of the system from time to time in order to make reasonable corrections or effect improvements in the system.

The Chancellor referred to the Minister for University Education for consideration the demands to scrap all forms of donations and bring about uniformity in fee structure.

To the demand that the Vice-Chancellor "must go", he said that specific allegations made against Dr. Narasimhaiah by the Action Committee had been referred to him for his comments. The matter would be looked into after the comments were received.

The Action Committee delegation that met the Chancellor did not meet the Vice-Chancellor. But members of another Action Committee met Dr. Narasimhaiah and presented him a memorandum containing seven demands which included ending the semester system, student representation on the Syndicate and Academic Council and governing councils of colleges, uniform fee structure and abolition of all forms of donation.

The Vice-Chancellor told the members that he would be constituting soon a committee, including students, to consider the merits and demerits of the semester system. The demand on donations and fee structure would be referred to the Government. As for the student representation on the Syndicate and Academic Council, the demand would be referred to the appropriate bodies of the university. The managements of colleges, both Government and private, had to consider the demand for student representation on their governing councils.

The Action Committee that called for the "bandh" levelled 30 charges against Dr. Narasimhaiah and demanded that these be inquired into by the Central Bureau of Investigation. It also called for the resignation of the Vice-Chancellor and said that unless he went the students would boycott their classes indefinitely. The charges were maladministration, embezzlement of funds and irregularities in creating and filling up posts in all cadres of teaching and administrative departments. Another charge was that the university had spent Rs 70.000 last year on its investigation of miracles and other superstitious beliefs.

On the first day of the week-long strike, about 200 students hijacked two city transport buses to the new campus of the university at Jnana Bharati, 15 km from Bangalore, and made a beeline for the Vice-Chancellor's room. Apprehending trouble Dr Narasimhaiah took shelter in another room. Not finding the Vice-Chancellor, the students ransacked his room and smashed the windows. The telephone receiver was broken and the table was littered with glass pieces. After repeatedly stoning the empty chair and smashing all things on which they could lay their hands, the students shouting slogans against Dr. Narasimhaiah climbed to the third floor of the administrative building and threw stones. The police strongly believe that it was a planned attempt to assault the Vice-Chancellor.

In the city, where most of the constituent colleges of the university are located, the students, out in numbers on the road, made the passing city transport buses, motor cars and autorickshaws the main targets of their stone-throwing attacks. There were also reports of damage to some shops near Central College and the residence of an advocate. According to the police, at least 30 cars, 25 buses and 12 autorickshaws were heavily damaged in the week-long agitation. The damage caused to the vehicles is put at Rs 10 lakhs and to university property about Rs. 2 lakhs.

The students' agitation attracted the attention of members of both Houses of Legislature which were in session in Bangalore then. Making a statement in the Legislative Council, The Chief Minister made it clear that while the Government was interested in the welfare of students, it would not be "a silent spectator" of their violent activities. The Government was seized of the issues raised by the students and these would be resolved in due course.

While pointing out that a majority of students were against such agitational activities, the Chief Minister said there were some professional agitators who should be condemned by everyone. There were a number of action committees claiming to make demands on behalf of students and the problem facing the Government was to identify the student leaders.

In a lengthy press statement, the Vice-Chancellor explained the preparation that had gone on before introducing the semester system. All deans, heads of departments and the Academic Council, including its 10 elected teachers, met five times. Four months were taken to frame the syllabus. The members of the Board of Studies and the heads of departments of colleges were consulted. The system, favoured by the UGC, was first introduced in the university in 1967 for engineering students. In 1976 it was extended to M.A., M.Sc., M.Com. and other postgraduate courses. With the approval of principals of colleges and heads of departments it was now being introduced for B.A., B.Sc., B.Com. and other courses.

While agreeing with the students' contention that the new system, providing for two examinations in a year, involved additional financial burden on them, he has given an assurance that the possibilities of lessening this would be considered.

On the question of election of student representatives on the Senate, the Vice-Chancellor explained that the Karnataka State Universities Act provided for the election of two from among the postgraduate students and three from among undergraduates for a term of one year. Since there was Emergency last year and the colleges were prohibited from holding any elections, the Act was amended by the Legislature to provide for the nomination of student representatives.

After the lifting of the Emergency in March, the Vice-Chancellors of Bangalore, Mysore and Karnatak had unanimously requested the State Government to restore the election of student representatives on the Senate as provided in the Act. But in view of the fact that the three universities had been functioning without the senates and other academic bodies for over an year and in order to constitute these bodies now, the Government had advised the university authorities to nominate the student representatives so that the delay involved in amending the Act and conducting elections could be avoided. Five students were nominated keeping in view the guidelines given by the Chancellor which included giving representation to girls, scheduled castes, religious minorities, sportsmen and one for academic excellence.

Dr Narasimhaiah said that he was ready to face any inquiry either by the CBI or the UGC or any such body. Any irregularity on the part of the University or the Vice-Chancellor should be brought to the notice of the Chancellor and the Government for taking necessary action. All issues should be settled by democratic methods and not in the streets.

The Vice-Chancellor described the charge made by an action committee that the university had spent Rs 70,000 last year on it investigation of miracles and other superstitions, as "a malicious propaganda and a blatant lie." The amount spent was just Rs. 750.38. He said it was "mean and baseless" to say that he had criticised Mr Jayaprakash Narayan. This was another "mischievous and vilifying propaganda" that was being carried on against him. Dr. H. Narasimhaiah has since resigned and his successor has been appointed.

Need for uniform fee for engineering course

The Bangalore University Engineering Students' Action Committee has urged the State Government to evolve a uniform and rational fee structure for private engineering colleges. The Government Engineering Colleges collect Rs 300/- per student. The fee however varies from Rs. 600/- to Rs 1200/- a year in private colleges. Some private colleges still collected huge sums as capitation fee, though the government have limited the collection to Rs. 6000/- per seat. The managing bodies of these colleges did not issue receipts for the amount collected above the ceiling fixed by the Government.

The students have also urged the Bangalore University to rectify the defects in the semester system of the engineering course. The rules require the students to study only five subjects in a semester but practically they were forced to study ten subjects in each semester. The President of the Association has appealed to the university authorities to uniform duration for all semesters as otherwise students had to keep on studying throughout the course without any vacation. He has suggested that practical work should be allotted to alternate semester to overcome the dearth of laboratory facilities.

Prime Minister Addresses Review Committee Members

Shri Morarji Desai, Prime Minister of India, met the members of the Committee appointed earlier to review the syllabi and textbooks prepared by the NCERT for the 10+2 system of education.

Shri Ishwarbhai Patel, President of the Committee, welcoming the Prime Minister said that the task entrusted to the Committee is very responsible. The members would soon discuss the educational programmes which would be available to the children under the new scheme. While doing so the capacities of the children, the needs of the society and the various limitations of the teachers as well as that of the institutions will be kept in view. The emphasis however would be on flexibility and sufficient elbow room would be provided to every State to make adjustments according to their own needs and requirements of the various regions. There was broad agreement with regard to relating the work to the real life problems to education. The young people needed a gainful productive work activity which should lead them to understand life properly. Besides the class rooms and the features, there should be options provided to cater to the interests and capabilities of the children both individually as well as in groups. The Committee has prepared tentatively objectives and the schemes of studies which will be further discussed. It was also important to examine the number of subjects that children should offer and see whether the contents are meaningful and go well with their capacity of understanding and the teachers capacity to put them across. The whole programme should be simplified with regard to the content of the scheme of studies.

Shri Morarji Desai in his address said that education is meant to train people, to use their capacities intellectual and physical to the best extent possible. This becomes possible only if person who receives the education develops fearlessness and truthfulness.

Briefly outlining the development of Indian education, the Prime Minister said that Mecauley attempted and ultimately succeeded in converting Indians to his school of thought. That is why he devised this educational system and he made no secret of it. We are still following that old pattern of education. The Prime Minister said that education has to be an instrument of reconstructing our society and we want it to be reconstructed. Education is the best instrument for achieving this objective. We should do it economically and in such a way that human personality becomes richer and happier.

Education needs complete overhauling. The whole attitude to education will have to be changed. For unless that is changed, new pattern will not solve any problems; it will add to the problems, complicate it, and disturb the whole fabric which has already been disturbed. So we must first of all be clear about the purpose of education and then the content of it. For that purpose we should not imitate England or America. We should embody and express the real India with its culture and heritage. Look at our public schools. What do they manufacture? Education is not the capacity to talk well or to be snobbish. Education should give what is called *Manvata*. But we are forgetting all that. How is it to be brought about? Unless the teachers are able to see this point of view all efforts that we make will not succeed.

A teacher teaches throughout his life. This is the real essence of our culture. We must follow the truth. That means the thought, words and deeds must synchronise. It is the teachers who can ensure that. Therefore they were given the higher status in our society. That did not necessarily mean that he should get higher reward in monetary terms. That, however, seems to be paramount consideration today.

We should steer education from strong holds of government. I do not want the government to run education. The education must be run more non-officially than officially. That does not mean government should not give money. Government collects money from all people and if it gives for many things, it is obliged to give for education. What it could say is that the standard of education, the principles of education are properly observed. That should be the only task of government. They should see that the funds that are given by government are not misappropriated and squandered. Beyond that government should have no say in this matter.

We are suffering from centuries of wrong thinking in which we have got trapped by our own fault, because we started quarrelling between ourselves. Therefore we were subjected to alien rule. It was not the British Government that conquered India. We conquered India for the British and ran it for them.

The Prime Minister appealed to the members of the Committee to examine all the issues in the wider perspective and called for suggestions so that they could be further discussed at various levels.

THESES OF THE MONTH

A list of Doctoral Theses Accepted by Indian Universites

PHYSICAL SCIENCES

Mathematics

1. Bhaumik, Jyotibhushan. Some gas dynamical problems on explosions. University of Calcutta.

2. Charanjit Lal. A study of certain Kampede Feriet function. Punjabi University.

3. Chetty, Shivashankar Sidramappa. Some problems in fluid dynamics. Karnatak University.

4. Desai, Pushpavati Venkappayya. Topics in differential geometry: Contribution to the study of recurrent spaces. Karnatak University.

5. Patra, Baidyanath. Solution of some plane and three-dimensional problems of mathematical theory of elasticity and associated mathematical techniques. University of Calcutta.

6. Raypalodhi, Basudeb. Some problems in eigen function expansion associated with a type of matrix differential operator. University of Calcutta.

7. Saha, Bibhutibhushan. Some generating functions for classic orthogonal polynomials and their generalization. University of Calcutta.

Physics

1. Bhattacharyya, Debaprasad. Sea level muon spectra near equator at different zenith angles and their primaries. *D.Sc.* University of Calcutta.

2. Das, Narayan Chandra. Theory of magnetic susceptibility of metals. Utkal University.

3. Desai, Vasanth Pandurangarao. Some studies on the ligand field theory and related problems in the compounds of the ions of palladium and platinum series. University of Calcutta.

4. Godge, Sadashio. Studies in molecular spectroscopy. Marathwada University.

5. Gupta, Subash Chander. Study of nucleon distribution on the surface of heavy nuclei through k-interaction (captures in emulsion nuclei). University of Jammu.

6. Lakshmipathi Rao, Meka. Spectral studies of some diatomic molecules. Andhra University.

7. Lingdoh, Evelyn. Theoretical studies on some aspects of atomic and molecular collision processes. University of Calcutta.

8. Patel, Akhileswar. Estimation of parameters of the scattering macromolecules in sisal fiber by low-angle X-ray methods. Sambalpur University.

9. Purkait, Nripendranath. Studies on D and E layers of the ionosphere. University of Calcutta.

10. Raghubar Dayal. Electron paramagnetic resonance and structural phase transition studies of Mn^{2+} doped single crystals and some metal perchlorate hexahydrates. I.I.T., Kanpur.

11. Subrahmanyam, Vanmisetty Veera Venkata. Studies on beta-generated bremsstrahlung. Andhra University.

12. Torasia, Sodananda. Investigation of macro-molecular parameters of keratin by low angle X-ray methods. Sambalpur University

Chemistry

1. Abidi, Hameeda. Chemical studies on Dolichos billorus, horse gram seed. Kanpur University.

2. Ashok Kumar. Polarographic determination of metal ions with some polyethylenepolyamines. Punjabi University.

3. Bhatt, Y.N. Studies on complexes. Saurashtra University.

4. Bhatta, Dinabandhu. Annealing studies on some bromates and bromate mixed crystals. Utkal University.

5. Biswas, Amalkumar. Studies on heterocyclic compounds. University of Calcutta.

6. Chakrabarti, Asutosh. Studies on naturally occurring heterocyclic compounds. University of Calcutta.

7. Durani, Susheel. Synthesis of potential antifertility agents. University of Jammu.

8. Gandotra, Ashok Kumar. Adducts of cobalt (II) and nickel (II) complexes of carboxylic acids with nitrogen donors. University of Jammu.

9. Ghoshal, Pullab Kumar. Synthetic studies on sesterterpenses and diterpenes. University of Calcutta.

10. Lahiri, Saswati. Thermal, photochemical and electron-impact transformations of 1,2-dibenzoylalkenes and related studies. I.I.T., Kanpur.

11. Maiti, Gobinda Chandra. Physico-chemical studies on single, binary and ternary oxide catalyst systems used in fertilizer technology. University of Calcutta.

12. Mangat Rai. Dipolar additions to carbon-nitrogen double bonds. Punjabi University.

13. Mohammed Yusuff, K.K. Studies on some dithiocarbamato and halogeno dithiocarbamato complexes of 3d-transition metals. University of Kerala.

14. Patel, Kantilal Shivram. Solution properties of amylose nitrate and amylose sulphate. Sardar Patel University.

15. Roy, Purna Chandra. Preparation and physico-chemical studies of some transition metal complexes (cobalt). Sambalpur University.

16. Samantra, Kura Chando. Mechanism and structure in some organic reactions. Berhampur University.

17. Seshaseyi, Y. Studies on the solvent extraction of ferrous and platinum group metals. Sri Venkateswara University.

18. Sondhi, Sham Murari. Studies in the synthesis of steroidal analogues containing nitrogen and sulphur. Punjabi University.

19. Srinivasa Rao, Appajosula. Some studies on the kinetics of the thermal decomposition of calcium carbonate. Indian School of Mines, Dhanbad.

20. Sugunan, S. Electrophilic catalysis in nucleophilic aliphatic substitution. University of Kerala.

21. Syamal, Arun Sankar. Synthesis, magnetism and spectroscopy of some selected metal complexes. *D.Sc.*

Earth Sciences

1. Banerjee, Basu Dam. Geology, petrology and petrochemistry of Rajhara coals, Daltonganj coalfield, Bihar, with special reference to metamorphism of the coals. Indian School of Mines, Dhanbad.

2. Pande, Ravindra Nath. Ganai-chaukhtia area in kumaon himalaya. M.S. University of Baroda.

3. Rama Shankar Singh. Some geophysical investigations for ground water prospecting in Dhanbad area, India. Indian School of Mines, Dhanbad.

4. Sudhakarn, K.S. Ultramafic rocks and chromite deposits of nuggehalli schist belt, Hassan district, Karnataka State, India. Sri Venkateswara University.

Engineering & Technology.

1. Chetty, K. Lakshminarayana. Physical and thermal properties of bentonite-bonded sands. Sri Venkateswara University.

2. Mahapatra, Kailash Chandra. Investigation on biopolar transistor from D.C. to high frequency. Sambalpur University.

3. Murty, Karri Narayana. Laminar film condensation: Effects or suction, gravity and magnetic field. Andhra University.

BIOLOGICAL SCIENCES

1. Harminder Singh. The physique and body composition of Indian athletes and sportsmen of selected physical activities. Punjabi University.

2. Kartha, G.S. Sreedharan. Cell surface in cell interaction. Jawaharlal Nehru University.

Biochemistry

1. Batabyal, Sandipkumar. Studies on antibiotics in health and disease with special reference to their metabolic effects. University of Calcutta.

2. Bhaskaran Nair, R. Investigations on the venom of South Indian scorpion, Heterometrus scaber. University of Kerala.

3. Chakrabarti, Kalyan. Studies on the intestinal absorption of different tetracyclines and chloromphenicol in vitro. University of Calcutta.

4. Prasannan, K. Biochemical investigations on diabetes mellitus. University of Kerala.

5. Srinivasan, A. Studies on characterization of test systems for elucidating the pathways of action of caffeine. Jawaharlal Nahru University.

6. Subba Rao, M.N. Some regulatory aspects of RNA metabolism. M.S. University of Baroda.

Microbiology

1. Mandal, Bimal Kumar. Clinico-pathological studies of some aspects of mycoplasma infection in man. University of Calcutta.

Botany

1. Abraham, T.K. Improvement of citric acid yielding strains of Aspergillus niger by radiation and studies in the biosynthetic pathways of citric acid. University of Calcutta.

2. Bengale, Ulhas Damodar. Studies on soil algae. Karnatak University.

3. Chandrasekharan Nair, N. Studies on morphology of angiosperms and Indian flora. *D.Sc.* University of Calcutta.

4. Dave, Jitendrakumar Jayantilal. Studies on the effect of gibberelic acid on the physiology of germination of cotton, Gossypium herbaceum L. Var. Digvijay. M.S. University of Baroda.

5. Dhakarey, Ram Pratap Singh. Studies on the vegetation of different forests of Panna District of M.P. Awadhesh Pratap Singh University.

6. Munivenkatappa, Sanjappa. Cytotaxonomical studies in some genera of the tribes: Indigofereae and Desmodieae of Fabaceae. M.S. University of Baroda.

7. Paliwal, K.C. Autecology and genecology of some ecotypes of Cenchrus ciliaria complex. Saurashtra University.

8. Parmil Kaur. Physiology of salt tolerance in sugarbeet, Beta vulgaris L. Punjab Agricultural University.

9. Patel, Navinchandra Dhulabhai. Developmental and anatomical studies in pericarp of some solanaceous fruits. Sardar Patel University.

10. Paul, Sushil R. Florisitics and phytogeography of the Netarhat, Bihar. Bihar University.

11. Shah, Rajendrakumar Ratilal. Studies on enzymes related to phenolic acids in plant tissue cultures. M.S. University of Baroda.

12. Verma, Raghunandan Prasad. Pathological and physiological studies of certain fungi imperfecti. Bihar University.

Zoology

1. Bais, Verendra Singh. Studies on the functional morphology of some endocrine glands in fresh water fishes with special reference to their control of reproductive cycle. University of Saugar.

2. Bhargava, Pratibha. Development of the osteocranium in Nundus marmoratus (Cul. & Val) and effects of antithyroid drugs. University of Saugar.

3. Dodakundi, Gangadhar Basalingappa. Aspects of microbiology in sewage and oxidation pond. Karnatak University.

4. George, P.V. Studies on the acanthocephalid worms in Kerala. University of Kerala.

5. Manna, Chanchalkumar. Cytophysical investigation of the avian adreno-cortical zonation. University of Calcutta.

6. Padhi, Suresh Chandra. Biochemical studies in the brain of aging male garden lizard, Calotes versicolor (Daudin). Berhampur University.

7. Parasher, Gauri Shanker. Studies on the neurosecretory cells of the ventral ganglia of insects. University of Saugar.

8. Patel, Sumanbhai Thakorbhai. Studies on certain aspect of adaptive physiological and biochemical changes in migratory birds. M.S. University of Baroda.

9. Thangjan, Kamashwar Singh. Studies on the aphids, homoptera: insects, of Manipur State. University of Calcutta.

10. Venkateswarlu, D. Effect of scorpion, Heterometrus fulvipes, venom on some physiological process in the frog, Rana hexadactyla. Sri Venkateswara University.

11. Vijayalakshmi, V.R. Some aspects of the reproductive physiology of male cockroaches. Calicut University.

Medical Sciences

1. Gupta, Manidipa. Studies on some aspects of ovulation blockage faculty of ergocornine in rates. University of Calcutta,

2. Nag, Pranabkumar. An ergonomic evaluation of different types of manual work in relation to productivity. University of Calcutta.

3. Nag Chaudhuri, Asis Kumar. Alterations in physiological activity induced by venom for scorpions found in West Bengal. University of Calcutta.

Agriculture

1. Chakravarty, Narayan Digendra. Influence of climate and topography on pedogensis of alluvial soils in Assam. Punjab Agricultural University.

2. Chattopadhyay, Subhendudeb. Studies on rice breeding with special reference to low temperature tolerance photo-insensitivity and high yielding capability. University of Calcutta.

3. Choubey, Ram Davar. Studies on leaf and sheath blight of paddy caused by Rhizoctoria species. Kanpur University.

4. Khanna, Brij Mohan. Pathological and epidemiological studies on the leaf blight of wheat caused by Helmintho. sporium spp. Kanpur University.

5. Kirpal Singh. Studies on saline sodic soils of Uttar Pradesh with special reference to Kanpur District. Kanpur University.

6. Daya Ram Singh. Physiological and pathological Studies on Pyricularia pennisetic causing leaf spot of bajra, Pennisetum typhoides Stapf and Hubbard. Kanpur University.

7. Sasmal, Pranabkumar. Studied in rice with reference to genetic variability, stability parameters and competition under varying levels of phosphate nutrition. University of Calcutta.

8. Virk, Jagjit Singh. Studies on the performance of wheat grown after different kharif crops. Punjab Agricultural University.

9. Yein, Basanta Ram. Studies on controlling the post complex of mung, Phaseolus aureus Roxb through aldicarb application with and without the use of different fertilizers. Punjab Agricultural University.

10. Yogesh Kumar. Effect of solution flow velocity on the removal of exchangeable sodium and prediction of Ca-Na exchange in sodic soils. Punjab Agricultural University.

Veterinary Science

1. Panghal, Bhoop Singh. Studies on pathogenesis, serodiagnosis, immunity, pathology and therapy of Babesia equi in donkeys. Haryana Agricultural University.

PANJAB UNIVERSITY (CHANDIGARH)

(Advertisement No. 19/77)

Applications are invited for the following posts so as to reach the Registrar, Panjab University, Chandigarh by **9.9.1977** along with postal orders of Rs. 7.50 each for posts at Sl. Nos. 1 to 5 and Rs. 5.00 each for posts at Sl. Nos. 6 to 8. Number of post/s is/are indicated with the subject. Qualifications essential and desirable be persued carefully.

1. **Administrative Officer** (Department of Commerce & Business Management)-1 (Pay-scale: Rs 1100-50-1600)

Qualifications

Essential

(a) A first or high second class post-graduate Degree/Diploma in Business Administration / Industrial Management/Marketing Management/Personnel Management.

OR

Post-Graduate Degree in any related discipline such as Sociology/Economics / Commerce/Psychology/Social Work/Mathematics/Statistics/Engineering with familiarity in Business Management/Personnel Management.

OR

Bachelor's Degree and Associate/Fellow of ICWA or Institute of Chartered Accountants.

(b) At least 5 years experience in academic Administration at the Executive level or in a Business House as an Executive.

Preferential

A person having industrial background or the knowledge or working of private and or public undertakings or educational institutions with special reference to Placement and Training will be given preference.

2. **Reader in Chemical Engineering-1** (Pay-Scale: Rs. 1200-50-1300-60-1900)

Qualifications

Essential

First class Master's degree/Doctorate degree in Chemical Engineering with a minimum of five years' experience in teaching/research in an institution of University Standard with outstanding teaching/research experience.

Desirable

Published work in standard journals.

3. **Lecturers** (Pay-Scale: Rs. 700-40-1100-50 1600)

Commerce & Business Management-4, Economics (for Department of Public Administration)-1, Education (including one for Diploma in Educational Technology one for Diploma in Vocational Guidance and Counselling and one for Evening classes)-4, English-1, French-1, Gandhian Studies-1, German-1, History of Art-1, History-4 (P.U. Evening College, Chandigarh-1, Department of History-3), Journalism-1, Punjabi-1, Philosophy-1, Geography-2, Political Science-1. Psychology-2, Statistics-2, Urdu-1, Anthropology (Social Anthropology/Demography)-2, Physical Anthropology-1, Botany-3, Plant Biochemistry (Department of Botany)-2, Plant Physiology (Department of Botany)-1, Biophysics-2, Mathematics (Applied)-1, Mathematics (Pure)-1, Microbiology-2, Zoology-4, Physics-3, Organic Chemistry-1, Inorganic Chemistry-2 (Permanent-1, Temporary-1), Biochemistry-3, (Enzymology-1, Immuno Chemistry, Membrance Biochemistry/Molecular Biochemistry/Molecular Biology-2)

Qualifications

Essential

(a) A Doctor's degree or research work of an equally high standard, and

(b) Consistently good academic record with 1st or high 2nd class (B in the seven point scale) Master's degree in a relevant subject or an equivalent degree of a foreign University.

Having regard to the need for developing inter-disciplinary programmes, the degree in (a) and (b) above may be in relevant subjects.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of a very high standard, it may relax any of the qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable a person possessing a consistently good academic record (weightage being given to M. Phil. or equivalent degree or research work of quality) may be appointed **provided he has done research work for at least two years or has practical experience in a research laboratory/organisation** on the condition that he will have to obtain a Doctor's degree or give evidence of research work of equivalent high standard within five years of his appointment, failing which he will not be able to earn future increments until he fulfils these requirements.

Explanation

1. Candidates for being eligible for recruitment to the posts of Lecturers must have a 1st or high second class (B in the seven point scale) at the Master's level and for determining consistently good record, average of 50-55% or (B in the seven point scale) may be expected at the two examinations prior to the Master's examinations. The following two examples would illustrate the above:

(i) A candidate who has obtained 52% marks at the Higher Secondary/Pre-University / Intermediate and 58% at the Degree level would have an average of 55% and as such could be considered.

(ii) A candidate who has obtained 60% at Higher Secondary/Pre-University/Intermediate and 50% at the Degree level would have an average of 55% and as such could be considered.

Desirable

Lecturers in Commerce & Business Management

For Post No. 1—Financial Management

M. Com/M.B.A. with specialisation in Banking and Finance/Financial Management/Management of Financial Institutions/Investment Management.

OR

Bachelor's degree and Associate/Fellow of the Institute of Chartered Accountants of India or England Institute of Company Secretaries with at least three years experience in a Public Limited company.

For Post No. 2-Production Management

First class graduate or post-graduate degree in Mechanical / Production Engineering with post-graduate qualifications in Business Administration/Industrial Management/Production Planning and Control.

For Post No. 3-Industrial Psychology

First or second class Post-Graduate in Psychology with specialisation in Industrial Psychology.

Note: For the above mentioned three posts preference will be given to those who possess about three years teaching or research experience or three years Managerial experience in Public/Private sector undertakings of repute.

For Post No. 4-Management Information and Data Processing/Management Systems

First or second high class post-graduate degree/diploma in Business Administration or Administrative Management with experience in Management Information Services/Office systems and procedures/work study in office/O.M. techniques/systems Analysis improvements. Preference will be given to those who possess about three years experience in operating at a Management Information Systems & Planning/Handling O.M. applications in offices/integrated data processing.

Lecturer in Economics: Teaching and Research experience.

Lecturers in Education

(i) Consistently good academic record with at least high second class in M.Ed./M A. (Education)/M.Phil (Education)/M.A. (Psychology) or an equivalent degree of foreign University recognised by the Panjab University:

(ii) Specialisation:

Post No. 1: Educational Measurement.

Post No. 2: Philosophical or Social Foundations of Education.

Post No. 3: Educational Technology.

Post No. 4: Vocational Guidance and Counselling.

Lecturer in French

(i) Diploma de langue from Alliance Francaise or from Sarbonne, the University of Paris.

OR

Professor at Alliance Francaise, France.

OR

Diploma Supereurd' Etudes Francaise Moderness of Alliance Francaise.

(ii) Training in Audio-visual aids in teaching French.

(iii) Diploma in Phonetics; Diploma or Certificate or Post-Graduate Course in the teaching French language from Central Institute of English and Foreign Languages, Hyderabad.

(iv) Teaching experience in a University Teaching Department to the level of Advanced Diploma in French.

Lecturer in Gandhian Studies

(i) Master's degree as at (b) in essential qualifications should be in Political Science or Economics or History or Philosophy or Public Administration or Sociology.

(ii) Ability to teach Gandhian Thought especially economic thought of Mahatma Gandhi or Theory and practice of Non-Violence.

(iii) Certificate/Diploma in Gandhian Philosophy or published work on Gandhian Thought.

(iv) Ability to guide research.

Lecturer in German

(i) Training in Audio-visual Aids in Teaching German.

(ii) At least two years' teaching Experience at the University level.

Lecturers in Geography

Post No. 1:

(i) Thorough acquaintance with quantitative methods.

(ii) Specialisation in Urban Geography/Political Geography.

Post No. 2:

(i) Specialisation in Geography of Regional Development/Geomorphology.

(ii) Training in methods of field study in Geography.

Lecturer in Journalism

(i) A first or high second class Master's degree in Journalism/Communication from an Indian University or an equivalent qualification from a foreign University,

(ii) At least second class postgraduate Diploma or Bachelor's degree in Journalism/Communication.

(iii) Work experience in any area of mass communication (newspaper/magazine, news agency, public relations, advertising, radio or TV journalism etc.).

(iv) Preferably a Master's degree in a social science subject in addition to (i) above as also teaching experience at University or college level.

Lecturer in Punjabi

Specialisation in Punjabi Gurmat Literature/Punjabi Quissa Poetry/Punjabi Sufi Poetry.

Lecturer in Philosophy

Modern Ethical Philosophies, Indian Philosophy or logic and Methodology of Social Sciences. Knowledge of Sanskrit or other modern European Languages would be considered additional qualifications.

Lecturer in Political Science

Specialisation in Pakistan Studies/Indian Govt. & Politics/Comparative Politics/Modern Political Analysis and Research Methodology with Statistics.

Lecturers in Psychology

Post No. 1:

Specialisation in Child Psychology (Rural)

Post No. 2:

Specialisation in order of Priority:

1 Clinical Psychology

2 Personality

3 Physiological Psychology

Lecturers in Statistics

(i) Specialisation in at least one of the following areas:

(a) Probability: (b) Nonparametric inference.

(ii) Experience of teaching postgraduate classes in Statistics.

Lecturers in Botany

Field of specialisation

Cytogenetics/Radiation Botany/Systematic Mycology with experience of studying Micological herbarium specimen and their maintenance.

Lecturer in Plant Biochemistry

(i) Doctorate degree in Biochemistry or Biosciences or Biological Sciences with specialisation in Plant Biochemistry.

(ii) Specialisation in Plant metabolisms/cellular physiology, enzymylogy.

Lecturer in Plant Physiology

(i) A first or second class Master's degree of an Indian University in Botany, Biosciences or Agriculture, with specialisation in Plant Physiology as evidenced by published work or an equivalent qualifications of a foreign University,

(ii) Ph.D. in Plant Physiology with published work of high standard and in Journals of repute.

(iii) Advanced training in Physiology of flowering or root formation in relation to hormones.

Lecturers in Biophysics

Specialisation for one post:

Cell Biology (Histochemistry/Animal Physiology/Nuclear Medicine).

Specialisation for other post:

Neurobiology/Neurophysiology /Electrophysiology. Ph.D. or minimum 5 years experience as evidenced by research publication.

Lecturer in Applied Mathematics

Specialisation in the fields of Magnetohydrodynamics and/or Differential equations.

Lecturers in Microbiology

Specialisation for one post:

Doctoral Degree in Microbiology. Research and teaching experience in Virology and Tissue Culture work.

Specialisation for other post:

Doctoral Degree in Microbiology or Botany. Teaching and Research Experience in Mycology.

Lecturers in Physics

Research experience in one of the following fields:

(1) Nuclear Physics (Theory and Experimental)
(2) Particle Physics (Theory)
(3) Solid State Physics (Theory)
(4) Mass Spectrometry
(5) Ultra violet Spectroscopy.

4. **Senior Research Fellows-2** (Rs. 600/- p.m. (fixed) each)

Department of Chemical Engineering & Technology

Qualifications

Essential:

First class Master's degree in Chemical Engineering.

Desirable:

Research Experience for one or two years. The fellow will be allowed to supplicate for Ph.D. degree in the Faculty of Engineering & Technology.

5. **Research Fellows-2** (Rs. 450/- p.m. (fixed) each).

Department of Zoology

First class M.Sc. in Zoology with good aptitute for higher research work. The term of the fellowship is 3 years in the first instance.

6. **Senior Technician-1** (Rs. 300-25-600-EB-25-700)

Department of Chemical Engineering & Technology

Qualifications:

Engineering Diploma with 3 years' experience or ITI certificate with 7 years' experience or Trade certificate with 15 years' experience in a workshop OR B.Sc. II Class with 3 years' experience in the specialisation.

Specialisation

Pattern making construction and fitting jobs involving good work, panelling, etc.

7. **Mechanic Grade-1** (Rs. 200-15-320-EB-20-500)

Department of Chemical Engineering & Technology

Qualifications

B.Sc. IInd class or B.Sc. III class with one year experience OR ITI certificate with one year's experience or Matric Ist class with Science with three years' experience OR 2nd class Matric with Science with 7 years experience in the specialisation.

Specialisation

Welding (gas & electric)

8. **Research Scholar in Psychology-1** (Rs. 400/- p.m. fixed)

Qualifications

First or high second class master's degree in the subject with bright academic record and aptitude for research.

Candidates for the post of Reader who do not possess a Doctoral degree are required to submit 10 typed/cyclostyled copies of brief resume of their research/published work. Separate application should be submitted for a post in a different Department. 15% posts of Lecturers will be reserved for the members of the Scheduled Castes and 2% for the members of the Scheduled Tribes, but these will be filled up by others if no suitable Scheduled Castes/Scheduled Tribes applicant is available.

Persons already in service should route their applications through proper channel. Incomplete forms and those received after the due date will not be entertained. Serving employees, may however, send their applications on the prescribed proforma direct to the University. They may route another copy through their Departments. They will be allowed to present themselves for interview only on the production of a 'No Objection Certificate' from their employers. Canvassing in any form will disqualify a candidate

Application forms can be obtained from the office of the Finance & Development Officer, Panjab University, Chandigarh, by making a written request accompanied with self-addressed stamped envelope of 23 x 10 cms.

GUJARAT UNIVERSITY

B.K. School of Business Management

Applications are invited for the following posts in the B.K. School of Business Management, Ahmedabad-9:

(A) Three posts of Reader/Teaching/Research Associate in Business Management.

The selected candidates will be suitably placed either as Reader or Teaching Research Associate under the University Grants Commission pay scale. A copy of minimum qualifications for appointment of teachers in the Department of Business Management can be had from the office of the Registrar, Gujarat University, Ahmedabad-9. Candidates with specialisation in (i) Managerial Economics (ii) Marketing Research or International Business and (iii) Production Management may be preferred. Other things remaining the same, industry experience in managerial position will be preferred.

(B) One post of Placement Officer in the pay scale of Rs. 700-40·900-EB-40-1100-50-1300. The candidate should have the following qualifications:

> "A Master's Degree in Second Class preferably in Business Management and 3 years' experience of work in a supervisory capacity with ability to counsel young men and women with maturity and ability to speak and handle correspondence in English."

In addition to basic pay, allowances such as D.A., H.R.A., C.L.A. etc. are admissible as per University rules. The prescribed forms and details of minimum qualifications can be obtained from the office of the Registrar on payment of Rs. 2/- by money order in favour of the Registrar, Gujarat University, Ahmedabad-380009.

Applications on prescribed forms should reach the Registrar within **fifteen days** from the date of the publication of this advertisement.

K.C. Parikh
REGISTRAR

INDIAN INSTITUTE OF TECHNOLOGY, KANPUR
IIT POST OFFICE
KANPUR-208016

Advertisement No. 17/77

Applications are invited for the post of Assistant Engineer (Electrical) in the pay scale of Rs. 650-30-740-35-810-EB-35-880-40-1000-EB-40-1200 in the Works Department at this Institute.

Qualifications & Experience

A Bachelor's degree in Electrical Engineering or equivalent with three years experience in a responsible position such as supervisory experience of electrical installations of large buildings such as laboratories and workshops, etc; and also maintenance, erection of substations, O.H. lines, underground cables, etc.

Qualifications relaxable in the case of highly experienced candidates having diploma in Electrical Engineering in the above areas with good service record. Other things being equal preference will be given to SC/ST candidates.

Post is permanent and carry retirement benefits in the shape of CPF Scheme or CPF-cum-Gratuity Scheme or CPF-cum-Pension-cum-Gratuity Scheme as may be opted according to rules. The age of retirement is 60 years. During the first year, the appointment will be on probation. Besides pay, posts carry allowances according to the Institute rules, which at present correspond to those admissible to the Central Government employees stationed at Kanpur. Higher initial pay is admissible to exceptionally qualified and deserving candidates. Candidates called for interview will be paid second class railway fare from the place of duty to Kanpur and back by the shortest route.

Application must be made on prescribed form obtainable free of charge from the Registrar of the Institute by sending a self addressed unstamped envelope of 25 cm × 10 cm size. Application should be accompanied by a postal order for Rs. 7.50 (1.87 fo SC/ST candidates).

Applications should reach the Registrar, Indian Institute of Technology, IIT Post Office, Kanpur-208016 (India) on or before **August 31, 1977.**

BANARAS HINDU UNIVERSITY

(Advertisement No. 8/1977-78)

Applications are invited for the undermentioned permanent posts. The benefit of Provident Fund Pension, Dearness Allowance, House Rent Allowance and City Compensatory Allowance are admissible according to University Rules. The retirement age of University employees is 60 years. The appointment will be made on two years probation on all permanent posts. Higher starting salary within the grade is admissible to specially qualified and experienced candidates.

Applications will be entertained on the prescribed form duly supported with a Bank Draft or Crossed Indian Postal Orders for Rs. 7.50 in favour of the Registrar, Banaras Hindu University towards the application fee. Application forms alongwith the leaflet of information will be supplied free of cost by the Registrar (Selection Committee Section) Banaras Hindu University, Varanasi 221005 on receipt of Rs. 0.40 paise stamped self addressed envelope of 23cm × 10cm size. Candidates called for interview for these posts will be paid actual Railway fare by the Second class plus reservation charges for sleeper, if paid, and or actual Bus fare from the present residence both ways by the shortest route as per University Rules. No. other expenses will be paid.

Applications for each post be sent separately along with attested copies of certificates in support of the qualifications and experience mentioned in the application be addressed to the Registrar (Selection Committee Section), Banaras Hindu University, Varanasi-221005.

Incomplete application in any respect will not be entertained for consideration.

Those who are in service should apply through proper channel. M.O. or Cheque will not be accepted towards the application fee.

For the post of Lecturers, other things being equal preference will be given to Scheduled Caste/Scheduled Tribes candidates who are considered fit.

Last date for receipt of application is August 31, 1977.

INSTITUTE OF TECHNOLOGY

PROFESSORS — Grade : Rs. 1500-60-1800-100-2000-125/2-2500.
READERS — Grade : Rs. 1200-50-1300-60-1900.
LECTURERS — Grade : Rs. 700-40-1100-50-1600.

1. **Professor of Chemical Engineering** (One)

   Qualifications Essential : (1) Doctorate Degree and/or published work of very high standard. (2) First or second class Master's Degree in Chemical Engg. or an equivalent qualification. (3) About ten years experience in responsible position in Teaching/Research/Industry. (4) Specialisation in one or more of the following fields : Transport processes/Thermodynamics/Fluid Dynamics/Heat Transfer/Mass Transfer/Reaction Engineering/Separation techniques. **Desirable** : (1) Corporate membership fellowship of professional organisations/learned societies. (2) Demonstrated ability in teaching, guiding and carrying out independent research as evidenced by research publications of good quality in journals of repute.

2. **Reader in Chemical Engineering** (Three)

   Qualifications Essential : Doctorate Degree or published work of an equally high standard in Chemical Engg./Technology/Chemistry. (2) First or second class Master's Degree in Chemical Engg./Technology/Chemistry or an equivalent qualification. (3) About five years experience in responsible position in teaching research/industry. (4) *a*. Good knowledge of Computer-aided Design of Chemical Plants and equipments/systems Engineering/simulation and optimization techniques (for one post only). *b*. Specialisation in one or more of the following fields: Petroleum Refining Engg. Transport Phenomena/Unit Operations/Nuclear Engg./Thermodynamics/Mass Transfer/Reaction Engg./Heat Transfer/Fluid Dynamics/Project Engg. Process Plant and equipment design separation techniques Biochemical Engineering (for the second post only). *c*. Specialisation in one or more of the following fields : Petroleum Technology Petrochemicals/High Polymer tech/Synthetic Fibre Technology/Design and Development of processes and Projects/Heavy chemical and fertilizers/Fine and Pharmaceutical Chemicals/Oils, soaps and detergents/Cellulose technology/Reactor control technology/kinetics and cytalyses (for the third post only). **Desirable** : (1) Evidence of original work in Research/Design Development. (2) Membership of professional bodies/learned societies.

3. **Reader in Electrical Engineering** (One)

   Qualifications Essential : (1) Doctorate Degree or published work of an equally high standard, (2) A first or second class Master's Degree in the subject or an equivalent qualification. (3) About five years experience in responsible position in teaching/industry/research. (4) Specialisation in Electric Drives and Power Electronics or Computer Sciences. **Desirable** : (1) Industrial experience. (2) Experience of guiding research. (3) Membership of professional bodies.

4. **Reader in Pharmaceutical Chemistry** (One)

   Qualifications Essential : (1) Doctorate Degree in Pharmaceutical Chemistry (Medical Chemistry) or published work of an equally high standard. (2) A first or second class Master's Degree (M. Pharm.) with specialisation in Synthetic Drugs or an equivalent qualification. (3) Five years experience in responsible position in Teaching research/industry. **Desirable** : (1) Specialisation in Synthetic Drugs, Syntheses and Analyses particularly I.P. Monographs/experience in Pharmaceutical Industry. (2) Research publication in reputed Indian and foreign journals. (3) Membership of learned bodies and societies.

5. **Reader in Pharmacology** (One)

   Qualifications Essential : (1) Doctorate Degree in the subject or published work of an equally high standard. (2) A first or second class Master's Degree in the subject M. Pharm. (Pharmacology) or M. D. (Pharmacology). (3) About five years experience in responsible position in Teaching/Research Industry. (4) Experience of guiding research in Pharmacology. Desirable : (1) Specialisation in Pharmacobynamics (Drug Design) Bio Chemical Pharmacology. (2) Research publication in reputed Indian or foreign journals (3) Membership of learned bodies and societies.

6. **Lecturer in Pharmaceutics** (One)

   Qualification Essential : (1) Consistently good academic record with first or high second class (B+) Master' Degree (M. Pharm.) with specialisation in Pharmaceutics or an equivalent degree of a foreign University. (2) Some experience in Teaching/Research/Industry. Desirable : (1) Doctorate Degree in the subject.

7. **Lecturer in Chemical Engineering** (One)

   Qualifications Essential (1) Consistently good academic record with first or high second class (B+) Master's Degree in Chemical/Engg./Chemical Technology or an equivalent degree with special knowledge in one or more of the following : Heavy Chemical Industries/Process Development and Project Design Fermentation Technology/Biochemical Engineering/High Polymer Technology/Cellulose Technology/Petroleum Technology/Process Reactor dynamics and control Technology. (2) Some experience in Teaching/Research/Industry. **Desirable** : (1) Doctorate Degree in Chemical Engg./Chemical Technology. (2) Publications in Journals of repute.

8. **Lecturer in Metallurgy** (One)

   Qualifications Essential : (1) Consistently good academic record with first or high second class (B+) Master's Degree in the subject or an equivalent degree of a foreign University. (2) Some experience in teaching research/industry with specialisation in one or more of the following fields : Physical Metalurgy/Industrial Metalurgy Extractive Metallurgy/Mechanical Metallurgy/Industrial Management/Metallurgical Design Fuels and Furnace Technology. **Desirable** : (1) Doctorate Degree in the subject. (2) Original work as evidenced by Technical Publications/Project reports in any aspect of Metallurgy. (3) Specialisation in Industrial Management/Metallurgical Design/Fuels and Furnace Technology

9. **Lecturer in Electrical Engineering** (Three)

   Qualifications Essential : (1) Consistently good academic record with first or high second class (B+) Master's Degree in Electrical/Electronics Engg. with specialisation in any of the following : (i) Control Systems, (ii) Instrumentation, (iii) Power Electronics, (iv) Power Systems, (v) Electrical Drives, (vi) High Voltage Engg. or an equivalent degree of a foreign University. (2) Some experience in Teaching/Research/Industry. **Desirable** : (1) Doctorate Degree in the subject.

10. **Lecturer in Civil Engineering** (Two)

    Qualifications Essential : (1) Consistently good academic record with first or high second class (B+) Master's Degree in the subject or an equivalent degree of a foreign university with specialisation in Hydraulic Engg./Structural Engg. Soil Mechanics & Foundation Engg./Architecture & Planning Public Health Engg./Highway Engg/Surveying & Photogrammetry. (2) Some experience of teaching/Research/Industry. **Desirable**: (1) Doctorate Degree in the subject. (2) Publications of merit.

Note : Qualifications relaxable for the post in Surveying and Photogrammetry for recognised field experience.

Note : Those who have obtained Doctorate Degree in the subject concerned will also be considered for all the above posts in the Institute of Technology irrespective of the fact whether they have Post-Graduate Degree in the subject or not.

FACULTIES OF SCIENCE & HUMANITIES

11. **Professor of Philosophy** (One)
Qualifications Essential : (1) Doctorate Degree or published work of an equally high standard. (2) A first or second class Master's Degree in the subject or an equivalent qualification. (3) About ten years experience of Post-Doctoral Research and or teaching at a University or College. (4) Ability to guide research of a high standard.

12. **Professor of Economics** (One)
Qualifications Essential : (1) Doctorate Degree or published work of an equally high standard. (2) A first or second class Master's Degree in the subject or an equivalent qualification. (3) About ten years experience of Post-Doctoral Research and or teaching at a University or College. (4) Ability to guide research of a high standard.

13. **Professor of Education** (One)
Qualifications Essential : (1) Doctorate Degree or published work of a high standard. (2) A first or second class Master's Degree in Education or an equivalent qualification with Master's Degree in any other subject. (3) About ten years experience of Post-Doctoral Research and/or teaching at a University or College. (4) Ability to guide research of a high standard.

14. **Reader in Botany** (One)

15. **Reader in Agricultural Statistics** (One)

16. **Reader in Chemistry** (Organic)
Qualifications Essential : (1) Doctorate Degree or published work of equally high standard. (2) A first or second class Master's Degree in the subject or an equivalent qualification. (3) Five years experience of Post-Doctoral Research and/or teaching at a University or College. (4) Experience of guiding research. **Desirable** : (1) Specialisation in Systematic Botany/Mycology and Plant Pathology/Phycology/Plant Ecology (applicable for post No. 15 only). (2) Specialisation in sampling or design of experiments applied to Agriculture or production side (applicable for post No. 16 only). (3) Capacity for independent research as evidenced by the applications (applicable for post No. 17-only).

17. **Lecturer in Chemistry** (Organic) (One)

18. **Lecturer in Chemistry** (Inorganic) (One)
Qualifications Essential : (1) A Doctor's Degree or research work of equally high standard; and (2) Consistently good academic record* with first or high second class (B in the seven point scale) Master's Degree in the subject or an equivalent degree of a foreign University.
*Average of 50-55% (or B in the seven point scale) at the two examinations prior to the Master's Examination.

19. **Lecturer in Entomology** (One)
Qualifications Essential : (1) A Doctor's Degree or research work of an equally high standard; and (2) Consistently good academic record* with first or high second class (B in the seven point scale) Master's Degree in Entomology and/or Agric, Zoology or an equivalent degree of a foreign university.
*Average of 50-55% (or B in the seven point scale) at the two examinations prior to the Master's Examination.

20. **Lecturer in Genetics & Plant Breeding** (One)
Qualifications Essential : (1) A Doctor's Degree or research work of an equally high standard; and (2) Consistently good academic record* with first or high second class (B in the seven point scale) Master's Degree in Genetics and Plant Breeding OR Agric. Botany or Botany with specialisation in Genetics and Plant Breeding or an equivalent degree of a foreign University. **Desirable** : (1) Experience in Microbial Genetics/Molecular Genetics Cytogenetics as evidenced by published work. (2) Ability to teach in Hindi & English, medium.

The following clauses will be applied in cases posts at Sr. No. 17, 18, 19 and 20.

Having regard to the need for developing inter-desciplinary programmes, the degrees at essential (1) and (2) above may be in the subject.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of qualifications prescribed at essential (2) above.

Provided further that if a candidate possessing a Doctor's Degree or equivalent research work is not available or is not considered suitable a person possessing a consistently good academic record (weightage being given to M.Phil. or equivalent degree or research work of quality) may be appointed provided he has done research work for at least two years or has practical experience in a research laboratory/organisation on the condition that he will have to obtain a Doctor's Degree or give evidence of research work of equivalent high standard within five years of his appointment failing which he will not be able to earn future increments until he fulfils these requirements.

INSTITUTE OF MEDICAL SCIENCES

Lecturers — Grade : Rs. 700-40-1100-50-1600 plus N.P.A. as per rules.

21. **Lecturer in Radiotherapy & Radiation Medicine** (One)
Qualifications Essential : (1) M.B.B.S. or equivalent qualification recognised by Medical Council of India, (2) M.D. (Radiotherapy), M.D./M.S. (Radiology), Speciality Board of Radiology (U.S.A.). F.F.R. (3) The requisite recognised Post-Graduate qualification in the subject and three years teaching experience as Registrar in Radiotherapy and Nuclear Medicine of which one year should be after Post-Graduate qualification. **Desirable** : (1) Research publication in the subject. Experience of radioactive isotopic work for diagnosis and therapy purposes in a teaching Hospital.

22. **Lecturer in Anaesthesiology** (Three)
Qualifications Essential : (1) M.B.B.S. or equivalent qualification recognised by the Medical Council of India. (2) M.D.M.S. (Anaesth.), F.F.A.R.C.S. (by examination) speciality Board of Anaesthesiology (USA). (3) The requisite recognised Post-Graduate qualification in the subject and three years teaching experience as Registrar in Anaesthesia of which one year should be after Post-Graduate qualification. **Desirable** : (1) Good academic career. (2) Publications in Scientific Journal.

UNIVERSITY OF NORTH BENGAL

Applications in prescribed forms are invited for the posts of Lecturers for the following departments in the pay scale of Rs. 700-40-1100-50-1600/- plus admissible allowances; (1) Economics, (2) Bengali, (3) Mathematics (specialisation Statistics); (4) Nepali, (5) Commerce.

The candidates who applied earlier for the posts of Lecturer in Mathematics & Nepali in response to our advertisement/10/R-76 dt. 28.6.77 need not apply again.

Essential qualifications : (a) a Doctor's degree or published work of an equally high standard; and (b) consistently good academic record with Ist or high 2nd class (B plus) Master's degree in a relevant or allied subject or an equivalent degree of a foreign University. Other provisions relating to the University Grants Commission revised pay scales will also apply as necessary.

Prescribed application forms may be obtained from the office of the Registrar personally on payment of Rs. 1/- in cash at the University Cash Counter on any working day between 11 a.m. and 3 p.m. (Saturday 1 p.m.) or by sending a self-addressed stamped (0.55 paise) envelope of 25 cm x 13 cm along with a remittance of Re. 1/- only by Crossed Indian Postal Order in favour of the University of North Bengal. Filled in application forms (5 copies) must reach the office of the Registrar, PO. North Bengal University, Dist. Darjeeling within 21 days from the date of publication.

REGISTRAR

UNIVERSITY OF DELHI

Advt. No. Estab. IV/44/77

Applications on the prescribed form are invited for the following posts:

S.No.	Department	Designation
1.	Faculty of Law:	
	(a) Evening Law Centre No. I	One Professor Specialization: Labour Law
	(b) Evening Law Centre No. II	(i) One Professor Specialization: Industrial Property Law—Patents, Trade and Copy Rights. (ii) Two Lecturers (Temporary)
2.	Mathematics	One Reader
3.	Chinese & Japanese Studies	(i) One Reader in Japanese Studies & Literature. (ii) One Lecturer in Japanese Studies
4.	Sanskrit	Two Lecturers
5.	South Delhi Campus	(i) One Professor in Philosophy (ii) One Reader in Philosophy (iii) One Professor in Sanskrit (iv) One Reader in Sanskrit (v) One Reader in History (vi) One Reader in Business Economics (vii) Two Readers in Political Science (viii) One Reader in Mathematics
6.	Central Office	One Deputy Registrar (for South Delhi Campus)
7.	Urdu	Research Associate

The Scales of Pay of the posts are:

1. Professor: Rs 1500-60-1800-100-2000-125/2-2500.
2. Reader Rs. 1200-50-1300-60-1900.
3. Lecturer Rs. 700-40-1100-50-1600.
4. Deputy Registrar Rs. 1100-50-1600.
5. Research Associate: Rs. 700-40-900-EB-40-1100-50-1300

All posts carry D.A., C.C.A. and H.R.A. as admissible under the rules in force in the University from time to time.

I. Essential Qualifications for:

1. Professorships

A Scholar of eminence.

Independent published work of high standard and experience of teaching Postgraduate classes and guiding research for a considerable period desirable.

2. Readerships

Good academic record with first or high second class Master's Degree in the subject concerned with a Doctor's Degree or equivalent published work.

Independent published work (in addition to the published work mentioned above) with at least 5 years' teaching experience in Honours/Postgraduate classes essential.

3. Lectureships (Excepting for posts in Law):

Good academic record with a first or high second class Master's Degree or an equivalent degree of a foreign University in the subject concerned.

Note: (Second Class would mean atleast 50% marks in the subjeet or equivalent grade).

Desirable

(i) A Doctor's Degree or Evidence of Research work of equivalent standard in the subject concerned. (ii) Teaching experience of Degree/Postgraduate classes.

Provided if a teacher is not a Ph.D./M.Phil./M.Litt. at the time of his/her appointment and does not qualify himself/herself for the award of Ph.D./M. Phil/M. Litt. Degree from a recognised University in a subject which is being taught by him/her within a period of five years from the date of his/her appointment or does not give evidence of research work within that period in be entitled to any future increments after the expiry of the said period of five years till such time he/she fulfils the above mentioned requirements,

4. Lectureships in Law (E.L.C. No. II):

Consistently good academic record with a first or high second class (B+) Master's Degree in Law or an equivalent Degree of a Foreign University in the subject concerned.

Explanation: Consistently good academic record would mean overall record of all assessments throughout the academic career leading to the Master's Degree which should at least be B+ or high Second Class.

Essential Qualifications for:

5. Deputy Registrar

A Second Class Master's Degree and experience of educational administration at the executive level for at least 8 years.

6. Research Associateship

(1) A First or High Second Class Master's Degree in Urdu. (2) Proficiency in Persian, English and Hindi languages. (3) Experience of research and translation work and evidence of considerable published translation work.

Note: Initial appointment will be for a period of three years extendable by another 2 years only. In no case the tenure will extend beyond 5 years in all.

II. Special/Desirable Qualifications for:

1. Professorship in Labour Law

Grounding in: (i) Comparative Labour Law, (ii) International Legal Developments for the protection of "Workers' Rights" and human rights, generally, (iii) Labour economics and labour statistics.

2. Professorship in Industrial Property Law

Grounding in: (i) Comparative and International Law relating to industrial and intellectual property; (2) Property Law including succession; (3) Taxation; (4) International Trade and economic law; (5) Law of industrial licensing and "know-how".

3. Readership in Philosophy

Specialization in Indian Logic and Epistemology together with sound knowledge of original Sanskrit texts.

Sanskrit:

Sahitya/Darhana/Epigraphy.

5. Readership in History

Specialization in American/British-European/Russian History.

6. Readerships in Political Science

For First Post: Comparative Politics (Comparative Politics here does not mean a comparative study of the selected constitution of some countries). Candidates should have specialisation in the field of comparative political analysis which is emerging as a new body of knowledge as a result of the impact of behaviouralism and post-behavioural revolution in Political Science.

For Second Post: Political Theory.

7. Readership in Mathematics (South Delhi Campus):

Specialisation in any one of the following topics: Banach Algebras, Abstract Hormonic Analysis, Algebraic Topology, Graph Theory.

8. Lectureships in Sanskrit

'Sahitya'' & ''Darshana''.

9. Readership in Japanese Language and literature

High proficiency in Japanese language.

10. Lectureship in Japanese literature

Ability to consult Japanese language books and experience in using Japanese source materials in research.

11. Research Associateship in Urdu

Experience of teaching Postgraduate courses preferable.

12. Deputy Registrar

Experience of University administration and familiarity with the working of University bodies and institutions including admissions. College administration, Accounts rules relating to fixation of pay and inspection of Colleges.

The prescribed application form can be had from the **Information Office** of the University either personally or by sending a self-addressed envelope (size 5″ × 11″) with postage stamps worth **Rs. 2.55.**

Selected candidates will have to produce the original documents relating to their age, qualifications, experience, etc. at the time of interview.

Applications (separate for each post) accompanied by attested copies of Degrees, other certificates, mark-sheets, published research articles, etc. should reach the undersigned not later than **10th September, 1977.**

Note:

1. It will be open to the University to consider the names of suitable candidates who may not have applied. Relaxation of any of the qualifications may be made in exceptional cases, in respect of all posts on the recommendations of the Selection Committee.
2. Canvassing in any form, by or on behalf of the candidates will disqualify.
3. Candidates from outside Delhi for teaching posts, called for interview will be paid contribution towards travel expenses equivalent to 1½ single Second Class Rail fare.
4. Those who had applied in response to the earlier advertisement for the post of Reader in Mathematics, **need not apply again, but in case they have any additional information to supply, they may do so.**

REGISTRAR

NAGARJUNA UNIVERSITY
NAGARJUNANAGAR
ADVERTISEMENT

NU/Estt/77-78 **Dt. 5-8-1977**

Applications in prescribed forms are invited so as to reach the Registrar on or before **6th September, 1977** for the following posts in the Nagarjuna University. Each application must be accompanied by a Crossed Indian Postal Order or a Demand Draft for Rs. 15/- in favour of the Registrar, Nagarjuna University, Nagarjunanagar 522 510 (A.P.).

Subject	Professors	Readers	Lecturers
1. Economics	—	2	1
2. Mathematics	—	2	1
3. English	—	1	1
4. Commerce	—	2	2
5. Archaeology	—	1	1
6. Telugu	—	2	2
7. Physics	—	—	1
8. Chemistry	—	1	—
9. Botany	—	1	—
10. Zoology	1	1	—

Other Posts:

1. Deputy Librarian	1
2. Physical Director	1
3. Controller of Examinations	1
4. Assistant Registrars	2

Scales of Pay:

Professor:
Rs. 1,100-50-1,300-60-1,600.
Reader: Rs. 700-50-1,250.
Lecturer: Rs. 400-40-800-50-950.

The above scales are likely to be revised.

Deputy Librarian:
Rs. 700-50-1,250.
Physical Director:
Rs. 400-40-800-50-950.
Controller of Examinations:
Rs. 700-50-1,250.
Assistant Registrar:
Rs. 400-40-800-50-950.

Qualifications:

(a) Professors & Readers

Essential

1. A first or high second class Master's Degree of an Indian University or an equivalent qualification from a foreign University in the subject.
2. A research Degree of Doctorate Standard or published work of a high standard in the subject.
3. Experience of teaching Honours or post-graduate classes for a period of ten years for Professors five years for Readers, and experience of guiding research for both the posts.

Desirable:

The following specialisations are desirable.

1. Economics

Mathematical Economics for one Reader's post.

2. Mathematics

1. Functional Analysis for one Reader's post.
2. Complex Analysis or Algebraic Geometry for the other.

3. English

British Literature or Indian Writing in English or Commonwealth Literature or Literary Criticism for Reader's post.

4. Commerce

1. Personnel Management and Industrial Relations for one Reader's post.
2. Either Advanced Banking and Monetary Policy or Industrial Economics for the other Reader's post.

5 Archaeology

Indian Art and Architecture with special reference to Buddhism for Reader's post.

6. Telugu

1. Grammatical Theories for one Reader's post.
2. Linguistics for another Reader's post.

7. Chemistry

Inorganic or Physical or Physical Organic Chemistry.

8. Botany

Developmental Morphology

9. Zoology

Limnology for the Professor's post. Physiology/Fisheries/Limnology/Cytology for Reader's post.

(b) **Lecturers**

Essential

1. At least a first or high second class Master's Degree of an Indian University or an equivalent qualification of a foreign University.
2. A research degree or a good record of research work.

Desirable

1. Telugu:
   1. M.A. (Sanskrit)/Siromani/Vidya Praveena/Basha Praveena.
   2. M.A. (Telugu) I or II class of a recognised University.
   3. Ph.D. in Telugu is preferable.
2. **Archaeology**

Specialisation in Epigraphy or Numismatics or environmental Archaeology. M.Phil. or Ph.D. Degree or evidence of published work and a certificate of Proficiency in Field work.

(c) Deputy Librarian

(a) First or Second class M.A./M.Sc/M.Com and a first or second class B. Lib. Science or Diploma in Library Science. The Degree of M. Lib. Science being a preferential qualification.

(b) At least 5 years experience as Librarian or in a responsible professional capacity in a Library.

(c) Good academic qualifications and research experience with publications.

(d) Physical Director

(a) A master's degree in Physical Education or a master degree in Arts/Science etc. with a postgraduate diploma in Physical Education. Preference will be given to a person holding master's degree in Physical education.

(b) At least 5 years experience of organising games and sports at University level. Proficiency in games upto inter University and national level

(e) Controller of Examinations

1. First or Second class Degree of any University or its equivalent.
2. Experience in an administrative capacity for a period of 5 years or as Assistant Registrars/Assistant Controller of Examinations or Finance for a period of 5 years.

(f) Assistant Registrars

1. First or Second class degree of any University or its equivalent.
2. Experience in an administrative capacity for a period of 3 years or as an Office Superintendent for a period of 5 years.

Note

1. Internal candidates if qualified are also eligible to apply for direct recruitment.
2. Those who have applied earlier in response to the Advertisement No. NU/Ts/76/77 dated 1-9-1976 need not apply. Any relevant additional information may, however, be furnished.
3. Reservations to Scheduled Castes, Scheduled Tribes and Backward Classes are made at 14%, 4% and 25% respectively for the posts of Lecturers.

Requisitions for the prescribed application forms may be made to the Registrar, Nagarjuna University, Nagarjunanagar accompanied by a self-addressed and a stamped-envelope, and a Demand Draft or crossed Indian Postal Order for one rupee in favour of the Registrar, Nagarjuna University Nagarjunanagar Pin 522 510 (A.P.)

The University reserves the right to fill or not to fill any or all of the above posts.

Sd/-
(Srimannarayana Kilaru)
REGISTRAR

UNIVERSITY NEWS, AUGUST 16, 1977. Regd. No. R. N. 7180/63 Postal No. D. (C) 534

ALIGARH MUSLIM UNIVERSITY

Advertisement No. 15/77-78

Applications on the prescribed form are invited for the following posts :

Candidates must possess Medical Qualifications included in first or second Schedule or Part II of the third Schedule (other than licentiate qualifications) of the Indian Medical Council Act, 1956. Holders of educational qualifications included in Part II of third schedule should fulfil the conditions stipulated in Section 13(3) of the Indian Medical Council Act, 1956. Must possess a basic University or equivalent qualification entered in Schedules under State/Central Medical Registration Act. (For the posts at Sl. Nos. 1 & 2 only).

1. **Reader in Physiology (Temporary) Scale Rs. 1200-50-1300-60-1900 plus allowances.**

Qualifications :

M.D., M.Sc., Ph.D., D.Sc., (Physiology). Assistant Professor/Lecturer in Physiology for three years in a Medical College.

Desirable: Research Publications. Experience in Neurophysiology or Cardiac Physiology.

2. **Lecturer in Ocular Pathology. Department of Ophthalmology. Scale Rs. 700-40-1100-50-1600 plus allowances.**

Qualifications: M.D. (Path.), M.D. (Path. & Bact.), M.D. (Path. with Bact.), M.Sc. (Med. Path.), Ph.D. (Path.), M.Sc. (Path.), Speciality Board of Pathology (USA). M.R.C. Path. (Lond.), M.C.P. (Australia) after examination.

The requisite recognised postgraduate qualification in the subject and three years teaching experience as Tutor/Clinical Pathologist/Resident Pathologist/Demonstrator in Pathology of which one year should be after postgraduate qualifications.

Desirable: Experience in Ocular Pathology and aptitude for research in Ophthalmic Pathology.

3. **Lecturer in Radiophysics. Scale Rs. 700-40-1100-50-1600 plus allowances (Department of Radiology).**

Qualifications: M.Sc. (Physics). At least 6 months BARC training in Radiophysics.

Desirable: X-Rays as a special paper in M.Sc. Teaching experience in Radiophysics. Aptitude for research. Published papers.

4. **Reader in Chemistry (Bio-Chemistry)—Plan Post. Scale Rs. 1200-50-1300-60-1900 plus allowances.**

Qualifications: (a) A first or a high second class Master's Degree in the subject concerned of an Indian University or an equivalent foreign qualification; (b) A research degree of a doctorate standard or published work of a high standard; and (c) At least five years experience of teaching postgraduate classes and some experience of guiding research.

Note: The teaching experience may be relaxed in case of highly qualified candidates otherwise. Those who have already applied in response to previous advertisement No. 19/76-77 need not apply again.

5. **Co-ordinator (B. E. Course, Z.H. College of Engineering & Technology) Scale Rs. 1500-60-1800 plus allowances.**

Qualifications: A first or a high second class basic degree in Electrical/Civil/Mechanical Engineering. Ordinarily postgraduate degree in any branch of Engineering. Ordinarily ten years experience of which five years should be in a position of responsibility in teaching in an Engineering institution of a degree standard and/or research.

Desirable: Published research work.

Prescribed application forms and instructions may be had from the Deputy Registrar (Executive) either personally or by sending a self addressed envelope of 23×10 cm. Last date for receipt of applications is **25th August, 1977.** Incomplete applications and those received late may not be considered.

Higher initial start may be given to candidates possessing exceptional qualifications and experience. Candidates interviewed may be paid contribution towards their T.A. equal to one single second class railway fare only.

(Jamalur Rahman)
REGISTRAR

GARHWAL UNIVERSITY
SRINAGAR (GARHWAL)

Wanted one Professor in the subject of Chemistry in the scale of Rs. 1500-60-1800-100-2000-125/2-2500/-.

Qualifications: (a) A doctorate in the subject of study concerned or a published work of a high standard in that subject and (b) consistently good academic record (that is to say the overall record of all assessments throughout the academic career of a candidate), with a first or high second class (i.e. more than 54% marks), in master's degree in the subject concerned or equivalent degree of foreign University in such subject.

Where the Selection Committee is of the opinion that the research work of a candidate, as evidenced either by his thesis or by his published work, is of a very high standard, it may relax any of the qualifications specified in sub-clause (b).

Experience: Candidate should have at least 10 years experience of teaching post-graduate classes and guiding research.

The prescribed application form and detailed particulars can be had free of cost from the Registrar's office either personally or by sending a self-addressed envelope (5"×11") with postage stamps worth Rs. 2.40. Applications accompanied by attested copies of degree and other certificates and published research articles etc. should reach the undersigned by **29th August, 1977.**

Chander Bhan
REGISTRAR

SAURASHTRA UNIVERSITY

Applications in the prescribed forms are invited for the undermentioned posts in the various Departments of the University. Application forms alongwith detailed requirements of qualifications and experience for these posts will be available from the Registrar, Saurashtra University, University Campus, Kalawad Road, Rajkot-5 on sending a self addressed envelope of the size 23 cm. × 11 cm. with postage stamps worth Rs. 1.15. Candidates should have consistently good academic record.

Applications (seven copies) accompanied by Indian Postal Order for Rs. 5/- crossed in favour of the Registrar, Saurashtra University, should reach this office on or before **10-9-77.** Those who have applied in response to the earlier advertisement need not apply again.

1. Department of Chemistry

(a) READER 1 **Post.** Qualified to teach Marine Chemistry

(b) LECTURER 1 **Post.** Qualified to teach Marine Chemistry

(Candidates qualified in branches other than Marine Chemistry, may be considered, if they apply.)

2. Department of History

(a) PROFESSOR 1 **Post.** Preferably in Modern Indian History.

(b) LECTURER 1 **Post.**

3. Department of Bio-Sciences

(a) READER 1 **Post.** Basic degree in Zoology. Specialization in Cell Biology/Molecular Biology/Animal Physiology/Animal Ecology/Endocrinology/Fish Biology/Marine Biology/or Cyto-Genetics.

(b) LECTURER 1 **Post.** Basic degree in Botany, Zoology or Experimental Biology. Specialization in Cytogenetics, Environmental Biology including Behavioural Ecology, Morphology and Embryology of plants/Animals, Marine/Algal Fish Resources and systematics of Plants or Animals, Cell Biology, Bio-Physics and Bio-Chemistry.

Pay Scales

1. Professor : Rs. 1500-60-1800-100-2000-125/2-2500
2. Reader : Rs. 1200-50-1300-60-1600-Assessment-60-1900.
3. Lecturer : Rs. 700-40-1100-50-1300-Assessment-50-1600.

Reservation for Scheduled Caste and Scheduled Tribe candidates will be 5% and 10% respectively.

Age ordinarily not exceeding 55 years. The posts are permanent and carry benefit of Contributory Provident Fund as per University rules. Dearness Allowance and House Rent Allowance will be paid as per University Rules. Higher initial salary in the scale may be considered in case of exceptionally qualified and experienced persons. Qualifications and experience—relaxable in special cases. Candidates in employment must submit their application through their present employer. **Those knowing Gujarati and/or Hindi will be preferred.**

V.M. Desai
REGISTRAR

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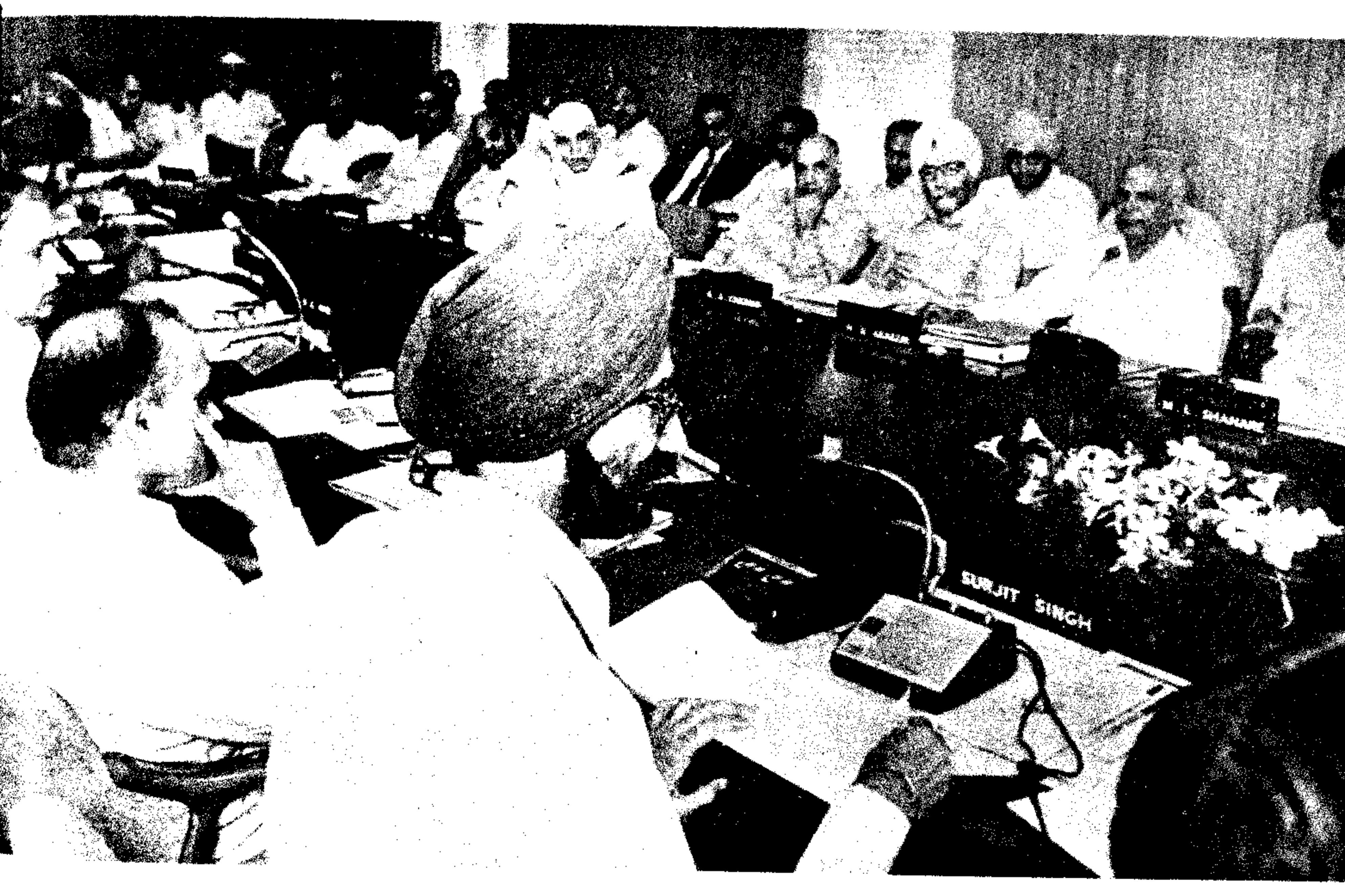
University News

A CHRONICLE OF HIGHER EDUCATION & RESEARCH SEPTEMBER 1, 1977 80 PAISE

Agricultural VCs Meet



Sardar S. S. Barnala, Union Minister for Agriculture & Irrigation, inaugurating Vice-Chancellors Conference of Agricultural Universities in New Delhi

UNIVERSITY BOARD OF INDIA
LIBRARY

UNIVERSITY OF COCHIN

No. Ad. A-2. 66/75

Notification

Applications are invited from qualified persons for appointment to the following vacancies in the teaching posts of the University:

Department (1)	Name of post (2)	No. of vacancy (3)	Area of specialisation (4)
(1) Department of Applied Chemistry	Professor	1	Polymer Chemistry
	Reader	1	Analytical Chemistry
(2) Department of Electronics	Reader	1	Electronics & Communication Systems
	Lecturer	2	Electronics & Communication Systems
(3) Department of Hindi	Lecturer	2	
(4) Department of Industrial Fisheries	Reader	3	Fish Processing—1 Fishing Craft & Gear—1 Fishery Economics—1
	Lecturer	1	Fishery Economics
(5) Department of Law	Reader	2	Criminal Law or Tax Law/Labour Law
(6) Department of Marine Sciences	Professor	1	Marine Geology—1
	Lecturer	6	Microbiology (Industrial)—1 Microbiology (Marine)—1 Chemistry—1 Marine Biology—1 Marine Geology—1 Geophysics—1
(7) Department of Mathematics	Professor	1	Applied Mathematics
(8) Department of Physics	Reader	1	
	Lecturer	1	
(9) Department of Rubber Processing Technology	Lecturer	1	Rubber Processing and Technology
(10) School of Management Studies	Professor	1	
	Reader	2	
	Lecturer	2	
	Teaching Assistant	2	
(11) Department of Ship Technology	Professor	2	Ship Design/Ship Motion and Manoeuvrability/Resistanee and Propulsion of Ships/Strength of Ships and Practical Ship Building/Ship Building Technology.
	Reader	3	
	Lecturer	5	Applied Thermoscience/Materials Science/Fluid Mechanics/Solid Mechanics/Elec. and Electronics Engg. (with Computer Science background)

Prescribed forms in quadruplicate can be had from the Registrar, University of Cochin, Cochin Palace P.O., Tripunithura-682301 on payment of Rs. 5/- by Cash or Money Order specifying the purpose in the Money Order Coupon. If a person intends to apply for more than one post, application in quadruplicate for each post should be submitted separately. The posts for which the application forms are required, should be specifically indicated in the Money Order Coupon. The receipt of remittance should be attached to the requisition for the forms.

Scale of pay

(a) Professor—Rs. 1200-50-1650-50/2-1750.

(b) Reader—Rs. 850-50-1350-50/2-1450.

(c) Lecturer—Rs. 600-40-800-50-1100-50/2-1250.

(d) Teaching Assistant—Rs 495-20-535-25-760-25/2—835.

The details of qualification, age, registration fee etc. of each post can be had from the University Office along with the application forms. Those who are in service should forward their applications through proper channel. Candidates will have to appear for interview if called for, at their own cost.

Completed applications should reach the University Office on or before **9-9-1977**.

Appointments to the posts notified will be made strictly in accordance with the Section 6(2) of the Cochin University Act 1971 (Act 30 of 1971).

Note: Candidates from abroad with Doctorate in the concerned subjects with publications of high standard and sufficient teaching experience at post graduate level may apply by giving their biodata in plain paper, to the Registrar, University of Cochin, Hill Palace, P.O., Tripunithura, Kerala together with a Bank Draft/Postal Order for Rs. 25/- as Registration Fee.

REGISTRAR

* * *

SAMBALPUR UNIVERSITY
JYOTI VIHAR: BURLA

No. 31834/TDS Dated the 8.8.77

Applications in the prescribed forms are invited for the following post in the P.G. Department of Statistics of the Sambalpur University as stated below.

Lecturer—One in Statistics

Scales of Pay—Rs 700-40-1100-50-1600/-

Age of retirement—60 years

Qualification

(i) At least a Ist or high second class Master's Degree in the respective subject with B+ or 55% of marks

(ii) At least 2 years Teaching/Research experience.

(iii) A Doctorate Degree or Published work or an equivalent standard.

Qualification (i) as mentioned above may be relaxed if the research work of a candidate as evident either from his/her thesis or from his/her published work is of very high standard.

Seven copies of the application form will be supplied from the University Office to each candidate in person on cash payment of Rs. 10/- (Rupees ten only. Candidates intending to receive forms by post are required to send (a) Crossed Postal order of Rs. 10/- payable to the Finance Officer, Sambalpu University, Jyoti Vihar, Burla (b) a sel addressed envelope (23 cm x 10 cm with postage stamps worth Rs. 2/ affixed to it with the words "APPLICATIQN FORM FOR TEACHIN POSTS IN SAMBALPUR UNIVERSITY" superscribed on it. Money Order/Cheque will not be entertained.

The last date of receipt of application in the office of the University at Jyot Vihar, Burla, Sambalpur (Orissa) i **10.9.77**. The candidates will be require to appear for an interview before a Selection Committee at their own expenses.

All communications should b addressed to the Registrar by designation only.

G.P. Guru

REGISTRA

UNIVERSITY NEWS

Vol. XV
No. 17

SEPTEMBER 1
1977

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Opinions expressed in the articles and reviews are individual and do not necessarily reflect the policies of the Association

Editor : ANJNI KUMAR

U.G.C. Review Committee reports to the Ministry of Education

The Review Committee on the University Grants Commission appointed by the Government of India under the chairmanship of Dr. V.S. Jha submitted its recommendations to the Ministry of Education in Delhi. The Committee was set up in August 1974 to review the functioning of the University Grants Commission with particular reference to coordination and determination of standards of higher education and to suggest measures for more effective discharge of its responsibilities. Some of the recommendations of the Committee are given below:

The President of India should be the Visitor of all universities in the country and the Commission should be the advisory agency for the Visitor in matters relating to university education. All acts and statutes of universities should have the prior approval of the Visitor. Appointments of vice-chancellors of all universities should be subject to prior approval of the Visitor. The Visitor, on the advice of the Commission, should have the power to issue directions to all universities in the country in matters affecting coordination and standards.

The Commission should have 18 members instead of 12 as at present. The additional six members may be:

(i) two college teachers (including principals) one of whom may, as far as possible, be from a women's college,
(ii) one person from the field of secondary education,
(iii) one expert in the field of rural higher education,
(iv) one expert in the field of non-formal education,
(v) Secretary, Planning Commission, as an ex-officio member.

The choice of members should be so made that broad disciplines as well as universities in different parts of the country find expression in the Commission.

The Commission should organize annual conference of education ministers, vice-chancellors, selected college principals and state education authorities in different parts of the country. Also some meetings of the Commission itself should be held at places other than Delhi every year.

The Commission's Office should have two main divisions to deal with (a) educational planning and policy, and (b) administration and grants.

The planning and policy division should be headed by an academician of standing who possesses expertise in planning, and should have four senior academicians belonging to different broad disciplines who should be in charge of research and evaluation in their respective fields and be allotted areas for establishing regular contact with universities and colleges.

Senior academicians should be appointed, on a tenure basis on deputation from the academic field. Their terms of deputation should be generous and facilities of accommodation and opportunities for research work assured. Other academic staff in the Commission's Office should also be appointed on deputation from educational institutions.

The Secretary should head the administration division and be answerable to the Chairman. The post should be filled on a tenure

LIBRARY

(*Continued on page 468*)

10+2+3 Pattern of Education Window Dressing ?

G. D. Sharma*

There was a time when a great deal of emphasis was laid on the introduction of the new 10+2+3 pattern of education. All the State Governments were requested to change over to the new pattern. But now rethinking on the introduction of the new pattern has started.

Those who are in education and concerned with it would recall that the desire for a uniform pattern of education was expressed by the Committee on Emotional Integration (1962), headed by Dr. Sampurnanand. The Committee suggested that a uniform fifteen years of first-degree pattern of education should be introduced throughout the country. The Education Commission (1964-66), headed by Dr. D.S. Kothari, and the Committee of Members of Parliament on Education (1967), headed by Dr. Triguna Sen, endorsed the same views. The idea was given a final shape by the National Committee on 10+2+3 Educational Structure, 1973.

Under the new pattern it was suggested that there should be ten years of school education, two years of higher secondary or pre-degree courses with educational and practical training, and three years of degree courses.

It was also held that ten years of schooling and two years integrated higher secondary/pre-degree courses would form terminal points for a large majority of students who are seeking jobs after schooling.

It may be stated that in 14 States and Union Territories, the first-degree course is of 14-year duration. In another 12 States and Union Territories, it is of 15-year duration. In one State and one Union Territory it is of 16-year duration. The sub-division of 14 and 15 years' duration in school and college levels vary from State to State. In the States and the Union Territories where the 15-year duration for the first degree is obtaining, the breakdown of the type 11+1+3, 11+2+2 and 10+2+3 is observed. In the States where 14 years' duration of the first-degree course is obtaining the breakdown of the type 10+1+3, 11+3 is observed. Thus an ununiform pattern of education is obtaining in the States and the Union Territories of India. This situation calls for a uniform pattern of education throughout the country.

There are some questions deserving attention before implementation of the new scheme. These questions are:

(a) Whether these two years of higher secondary/pre-degree courses are to be attached to the schools or to the colleges?
(b) What would be the content of these two years' course?
(c) How would this be different from ITIs and other technical certificate and diploma courses?
(d) How is the scheme likely to be implemented?
(e) How would resources for implementation of the scheme be made available?
(f) How will manpower be deployed for the implementation of the scheme?
(g) How is this change likely to fulfil the broad social and economic objectives of education?

As we will see later not much attention had been paid to these aspects before the State Governments were firmly persuaded to implement the new pattern.

As the two types of first-degree courses are obtaining in the country, it would have been worthwhile in the first instance to assess the knowledge gaps between the contents of the courses where 15 and 14 years of first-degree patterns are obtaining. No doubt this is a very difficult task but it is an essential one before any step is taken to implement the new scheme. Also it has to be seen how far the level of knowledge which is intended to be imparted under the new scheme would be different from the prevailing level. How is the new content of the knowledge likely to be divided in the 10+2+3 years' duration of education?

Another aspect linked with the issue is the preparation of text-books in languages of the respective States and the training of the teachers in the new courses. The preparation of text-books and the training of teachers would require advance planning. But instead of that, in the implementation of the new pattern in some of the States, all these steps have been ignored. Wherever some planning about the preparation of text-books and training of teachers was done, it was done without assessing the knowledge gaps, clearly dividing contents in 10+2+3 years' duration and without proper training of teachers. It was also done in a great hurry. This resulted in a sort of confusion in the minds of teachers as well as students.

It has been widely publicised that under the new pattern some technical/vocational courses will be introduced. The aim behind the introduction of such courses is that they will provide terminal points for many students who desire to take up jobs after 10+2 years of education. It is, however, not clarified how this will happen. How is the content of vocational training different from the vocational training given in the ITIs and in other institutions? How are resources and manpower likely to be mobilised for the introduction of each training in a large number of schools/colleges?

It may be pointed out here that even large percentage of vocational diploma and degree holders produced from our ITIs and other institutions are unemployed. Therefore, even after assuming that the facilities can be created for vocationalisation and practical training, it has to be seen whether vocational/practical training which is intended to be pro-

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**Research Officer in the Association of Indian Universities.*

vided has any bearing on the economy's requirement. This has to be again studied in the light of rates of growth in agricultural, industrial and service sectors in the economy. Therefore, the 2 stage, in becoming a terminal point would depend upon rates of growth in these sectors and the available of job opportunities in them. The introduction of +2 stage by itself would not in any way provide jobs to those who are seeking jobs after 10+2 years of education.

The scheme can be implemented in three ways. First, by attaching the +2 stage to the higher secondary schools; secondly, by attaching it to the college; and thirdly, partly to the colleges and partly to the schools.

In the first case, the implementation of the scheme would require transfer of one year's course to the schools from the colleges in the States where 15 years of first-degree course is obtaining. In the States where 14 years of first-degree course is obtaining, the implementation would require introduction of one more year to the higher secondary school courses. In the former case, it would imply that some of the teachers engaged in teaching pre-university/first-year of inter classes would require to be transferred to the schools. The number of such teachers is likely to be sizable.

The transfer of teachers to the schools may be resisted by the teachers on two grounds. First, on the ground of loss of their status of college teachers. Second, on the ground of reduction in pay scale of these teachers. Even if the latter aspsect is taken due care of, some resistance will have to be faced from the teachers on account of the fall in their status.

Another aspect which has to be taken into account is the problem of fixing the criteria for transfer of college teachers to schools. Here it has to be seen whether the junior-most teachers should go to the schools or fairly experienced persons should be transferred to the schools. In the absence of any clear-cut guideline on this aspect, there are possibilities that attempt at adjustment might lead to confusion. It will also give scope for victimisation of some of the teachers who are not liked by the college management. It will also leave some of the facilities in the college unutilised. Besides, the reduction in students' strength will reduce the revenue of the colleges. That might increase the financial burden on the colleges. As a large number of colleges are already in financial crises, the increased burden might force some of them to close down.

In the latter situation, where 14 years' first-degree course is obtaining, the implementation would call for employment of more teachers in the schools.

If +2 stage is attached to the colleges, some of the teachers from schools would be transferred to the colleges. Here again the problem of who should be transferred to the colleges will arise. This method of implementation may, however, take care of the problem of status and pay scales of college teachers. But the problem of creating additional facilities for one more year's course in the college and at the same time leaving some of the facilities idle in the schools will remain to be tackled. Besides, it would also call for increased grants-in-aid to the colleges to meet increased expenditure on teachers'salary. If the scheme is implemented in the third way, in which +2 stage is partly attached to colleges and partly to schools, it would create more complications than we visualise in the situation when +2 stage is either attached to colleges or to the schools.

In the States where 14 years' first-degree course is obtaining, the increase of one more year for obtaining the same degree might be resisted by the students and their parents. This is specifically because most of the parents send their wards for higher education with a view to getting early degree so that they may add to the earning capacity of the family. The delay of one more year coupled with some of the waiting period in getting a suitable job might cause some problems for the parents as well as for the students.

However, the purpose of this presentation is not to suggest that uniformity in the educational system should not be introduced. What is simply intended to suggest is the possible reaction of students and their parents, that have to be faced by the Govt when the new pattern is implemeted in the States. It may, however, be mentioned that any temporary solution like two years of pass course would defeat the very purpose of the new scheme.

The introduction of the new pattern would necessarily mean the creation of an additional infrastructure if the +2 stage is attached to the colleges or to the schools. It might as well render surplus some part of the existing infrastructure in the schools/colleges. As stated above the introduction of vocational and technical tranning would also require some additional facilities to be created in the school/colleges. This would require advance planning as well as additional resources.

Since independence no radical change in the education system has occurred. There has been much talk of bringing about a change in the education system so as to fulfil the aspirations of the people after achieving independence and to meet the needs of economic and social development. But nothing concrete has been done in this direction. Our education system has more or less grown out of the pattern of the colonial education system, left behind by the British—of course, with some changes here and there. These changes have, however, re-emphasised the old economic and social structure. Evidences on this aspect are widely publicised and do not need to be recounted over here. What we need is the clear definition of the social, economic and political objectives of our education system, and also a well-designed educational planning to achieve these objectives. It may be mentioned that we have spent about Rs. 1,500 crores (2.53 per cent of the GNP) every year on education, but we do not have any planning worth its name. This is evident from the fact that (a) the wastage and stagnation in Indian education system are much higher; (b) very small proportion of rural population is literate; (c) higher education is still a dream for a large section of economically and socially backward classes of society; and (d) a large number of graduates are unemployed.

Unless the objectives are clearly stated and planning is done to achieve these objectives, the introduction of any pattern would prove to be a sort of window dressing. *(Courtesy: Mainstream)*

An Instrument for Decision-making in Management

J. F. Pandya*

Libraries play a vital role, more so in educational institutions. No wonder they say a room without books is like a man without soul.

In management institutions libraries are really laboratories and tools for study, teaching and research. They help both the teacher and taught to keep themselves abreast of the advances in many disciplines.

The Indian Institute of Management, Ahmedabad set up in 1962 by the Government of India in collaboration with the industry and the Government of Gujarat, is proud of its well-stocked library. Named after the institute's founder, Dr. Vikram Sarabhai, the Vikram Sarabhai Library, one of the best management libraries in South East Asia, is well equipped to play its part in meeting the objectives of the institutes which are :

(a) To provide educational facilities for training young men and women for careers in management and related fields in any form of organization; (b) To contribute to the improvement of the decision-making, skills and administrative competence of practising managers ; (c) To develop teachers and researchers in different fields relating to management ; (d) To develop knowledge through original research, both applied and conceptual, relevant to management and its underlying disciplines, and to disseminate such knowledge through publications ; (e) To assist organizations in solving their management problems by providing consulting services; (f) To collaborate with other institutions in India and abroad to further any or all of the above objectives and, if necessary, to assist in institution building.

The information storage and retrieval system in the library is designed to meet the academic and research needs of the Institute. The subject coverage is intensive in fields like economics and social analysis and environment, financial management, organisational behaviour, personnel and industrial relations, trade unions, manpower planning, production management, marketing, operations research, computers and information systems, family planning, rural development and agricultural management and public systems and agricultural management. The collection also includes books on supportive disciplines likes behavioural science, economics, sociology, social psychology, business and managerial history, political science and mathematics and statistics.

Over and above, the library has also started building the collection on various research activities and projects of the institute in the fields like population, public distribution systems, energy, housing, tribal development, transportation etc.

Library collection

Starting from a base collection of 7,000 books and 400 periodicals in 1963–64, Vikram Sarabhai Library's present collection of books and bound volumes of periodicals numbers about 85,000. It subscribes to about 900 current management periodicals published all over the world. The average number of books acquired in a year is more than 5,000.

To enable maximum utilization of the library resources and of the open stack system, VSL has grouped its books into five sequences, text-books, reference, general, government publication, and rare books.

Audio-visual aids like films on management subjects, micro-films and micro-fiche constiute the "Audio-visual Sequence". Micro-film and micro-fiche readers are available.

Collection of published company information is one of the library's main functions. The corporate library has 2,000 Indian and foreign companies reports. An alphabetical index of the company reports in stock with the library is provided in card form. A plan for preparing the "Activity Index" of the companies is under consideration. The collection provide further opportunities, for faculty, students and alumni to study company activities in many ways.

Reference Department

The various services which this unit is expected to perform can be described as the interpretation of the library's resources to readers seeking guidance in some study. This includes guidance in the selection of material, bibliographical searches and location of factual information.

Services

(a) Reference and Bibliography

To achieve this end, the department is active in preparing reading lists and subject bibliographies. It assists the readers at all levels in the use of reference sources, like indexes, bibliographies, catalogues, annuals, directories and statistical publication. It makes available to the students literature required for their various projects.

(b) Indexing

Thousands of articles are published in various journals and languages. It is very difficult to go through all the literature on the subject, but indexing is helpful to the teachers, students and executives who wish to read as much as possible on a particular subject. VSL indexes about 200 selected Indian periodicals and two dailes **The Economic Times and The Financial Express** The index is being maintained on 5″×3″ cards and the file contains about 40,000 entries.

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*Deputy Librarian, IIM, Ahmedabad.

The scheme of assigning the subject heading is similar to the one adopted by the reputed American "Business Periodicals Index", published by H.W. Wilson Co., New York.

Initiation of new members

The library staff initiates new students and other members of the Institute in the use of the library as and when they join. They are taken round the library and the arrangements for collections, indexing systems, issuing facilities, membership formalities and other services provided by the library are explained. This is a continuous process.

Inter-Library loan

Co-operation with other libraries have continued through inter-library lending of books. VSL has contact with most of the libraries of the universities, institutions and corporations in the country. On an average about 300 books are lent out from this library and an equal number of books received from other libraries every year.

Publication and Exhibitions

The library compiles and issue the monthly "List of selected new books on management and related disciplines". This list represents only the selected titles embracing the functional and applied aspects of management.

VSL arranges twice a year an exhibition of balance sheets of leading foreign and Indian companies. The purpose of the exhibition is to complement the academic objectives of the Managerial Accounting module relating to preparation of annual corporate financial statements. This is done by making available specimens of actual financial statements drwan up by leading corporations.

To support the theme of the conferences or seminars hosted by the IIMA, the VSL arranges exhibitions of books, reports and journals on the subject and the material thus displayed are compiled in the form of bibliography.

Alumni

Alumni stationed in Ahmedabad and attending any of the Institute's programme, short term or long term, are entitled to become members of the library. Borrowing privileges are given to them after they deposit the required amount.

For Non-Members

Many institutions, universities and departments ask their teachers, students and technical personnel to work in the library for their dissertation, thesis or research projects

The demand for information on all aspects of business and management is steadily growing. The success in tracing the information quickly depends partly on the library users' skill in tapping the various resources, available in the library i.e. books, periodicals, reference sources, statistics, information files and corporation collection, and partly on the efficiency of the library staff to give assistance. There is a growing need for students to be given more advice and guidance on how to use relevant information sources.

Physical Facilities

The VSL is housed in a four storeyed, fully air-conditioned building which is divided into two wings by a central staircase. One wing is the stack area and the other has reading halls. Twenty-six closed carrels and forty-four open carrels are provided in the stack area of the two floors. The carrels are designed for individual study, the closed carrels are for Fellow Programme students working on their thesis and assignments. Facilities for group studies exist on the third floor of the stack area where bound volume of periodicals and corporation reports are kept. The main reading hall accommodates about 100 readers.

VSL organization and staff

At present the library has the services of 10 professionals and 10 non-professionals (excluding stack assistants, library attendants etc).

The institute encourages the library staff members for their professional development. The library has a very good collection of books and periodicals on library science. The institute also encourages the members to contribute to professional literature by providing all possible assistance.

Acquisition and catalogue

Over and above the usual procedures for ordering of the material, the library gives priority for acquiring research-oriented meterial from the various institutes, association, societies and government publications and ministeries' reports. The library is on many mailing lists thus procuring material from research and academic institutions, associations and societies, R & D departments of industries and government agencies.

The Dewey Decimal Classification scheme with certain pockets expanded and the Anglo-American cataloguing rules for the cataloguing are being followed for the organization of the library material. The library of congress subject headings scheme is being applied for assigning the subject headings to the library material.

Conclusion

With the keen interest shown by the Institute's authority and faculty and the team spirit of the library staff the VSL is bound to meet the national requirements for published material and information on management within a couple of years. The demand on VSL for information on aspects of business and management as well as the need for advice and guidance on how to use the library resources is increasing. ☐

CAMPUS NEWS

Vice-Chancellors meet the Prime Minister and Agriculture Minister

Sardar S.S. Barnala, Union Minister for Agriculture and Irrigation inaugurated a two-day conference of Vice-Chancellors of agricultural universities in Delhi. He suggested that farm universities may develop a special strategy so as to tone up the production of grains under different conditions of irrigation. He wanted the universities to lay stress on the improvement of production of gram and peas in coming rabi season by training farmers and extension workers in scientific sowing and application of becterial cultures. Since rabi sowing would start next month, little time was left for the launching of the campaign. After the sowing is over, the student and staff could help in the control of pest and advise farmers on different aspects of agricultural methods employed for the improvement of farm products.

Mr. Barnala said that India grew the largest number of pulse crops, yet their production had been sadly neglected with the result that the per capita availability of pulses had been steadily going down. Indian agriculture was now on the crossroads. All these years, increases in output were registered more due to bringing fresh hectares under the plough than to raise in productivity. There was a lack of integration in crop-livestock-fish production programmes all over the country. This needed a reorientation so that farm growth may be made the instrument of generating more income and employment by suitable integration of production and post-harvest technologies.

Mr. Barnala favoured the creation of agro-industrial complexes in every district. These complexes should accord top priority to landless labour, some of whom may be withdrawn from routine farming operations. He also made a strong case for stepping up oil seed production. The recent study of the Indian Council of Medical Research has shown that the intake of oils and fats was just 10 gms per head against the required 30 gms.

Referring to the growth of agricultural universities, the Minister felt that it had been uneven. Some universities had developed well while others trailed behind. A review committee headed by Dr. M.S. Randhawa was already considering all these points. The report of the Committee would go a long way in planning of agricultural universities for the VI Plan period.

The Prime Minister, Shri Morarji Desai also addressed the Vice-Chancellors when they met him. He suggested that regional languages should be adopted as the medium of instruction in agricultural universities as teaching in the language of the people was essential for the development of agriculture. These universities should give preference for admission of students from farm families so that they could go back to their farms and increase their production. Mr. Desai suggested that Government farms should be converted into demonstration farms to introduce new technology to farmers. He also wanted agricultural universities to change their teaching techniques. They should do more practical work so that they could practise what they had learnt. He pleaded for the institution of special prizes to small and marginal farmers to encourage them to increase productivity. At present most of the prizes went to big farmers.

Teachers meet in Gorakhpur

A joint convention of the teachers of state universities of Uttar Pradesh was held at Gorakhpur recently under the presidentship of Dr G.R. Sharma of Allahabad University. The Convention felt that the various new experiments conducted by the government in the universities during recent years have failed to bring out the desired results and have proved deterimental to the interest of higher education in the State. The Convention therefore recommended that there should be fresh thinking on all aspects of higher education. Healthy measures of reform, which will ensure full autonomy and academic freedom of the universities should be introduced by the government.

The Convention demanded full academic and administrative autonomy for the universities. It suggested that Allahabad, Lucknow and Gorakhpur Universities should be made purely unitary, teaching and residential universities and all the existing unitary residential character of Sampurnanand Sanskrit Vishwavidyalaya and Kashi Vidyapeeth should be retained. Separate Acts for different universities keeping in view their genius, needs and regional or other requirements, should be framed.

The Convention disapproved the idea of holding Vice-Chancellors Conference and urged the government to discontinue the practice of holding such conferences. It expressed its concern over the existence of a large number of temporary teachers in various departments of state universities and demanded that all existing temporary posts which have existed for a period of three years or more be made permanent. The Convention took note of the allegations and counter allegations of corruption, favouritism made at different levels on different occasions through various forums and with a view to restoring public confidence resolved that a Commission of High Court Judges be instituted to go into all such cases of corruption and misuse of power made against any person irrespective of the fact whether he is the highest authority or the meanest employee connected with the university administration. The Convention also demanded that the university teachers be given all such facilities as are available in the central universities, for example the triple benefit scheme, house rent allowance and free medical facilities etc. It demanded that payments should be made to teachers for examination work, including setting of question papers, evaluation of answer books, conduction of practical and viva-voce examinations, tabulation and collation and scrutiny work etc with effect from 1974.

The Convention also demanded that the system of private examinations be abolished from the residential universities in view of teaching as well as research done in these universities and suggested that the affiliating universities be given the responsibility of conducting the examinations of private students.

The question of the abolition of the present three grades in the universities was also considered and it was suggested that the system of one integrated pay scale be followed by the universities.

INSA pleads for effective planning

The Council of the Indian National Science Academy met in New Delhi on the 8th and 9th August. The members of the Academy were very much concerned over the various statements made in the press at different conferences and other public platforms that the country has not benefitted sufficiently by the ushering in of science and technology since independence. It is to be said, on the contrary that the impact of science and technology on Indian industry and agriculture has been such as to put the country in a very special position among the developing nations of the world. Its approach to its problem through science tempered by its ancient wisdom of viewing everything in a humanitarian way has allowed us to develop our technology in such a way as to bring out the genius of its people and be an example to other countries.

It is true that in a situation of a runaway population, the benefits are not visible everywhere, but anyone who wishes to investigate for himself the advances made in agriculture, health, nuclear science, space, metallurgy will be dazzled by all that has been achieved in such a short time and much of it purely by Indian efforts. It is well recognised that it is by the application of modern medicine that the country has been able to increase life expectancy, decrease incidence of communicable diseases and to rid itself of epidemic diseases such as small-pox and plague.

It has become fashionable to accuse science and the work of scientists for various acts of omission and commission. The failure to have good water supplies in towns and villages, poor quality of roads, unhygienic hospitals, poorly constructed buildings, lack of nutritious food etc., are not due to science, but due to poor management and administration, indecision at political levels and the stronghold of superstitions on our simple folk.

The import of foreign technology begins to look attractive under these conditions, but the real strength of the country lies in its becoming self-reliant in as many aspects as possible. We are not merely a country, but a small continent and have some of the most capable people in the world in our 600 millions. We will never be able to utilise their talents and give them confidence if we run after foreign inputs which for all the advantages they provide in the beginning, will have an adverse effect on our economy due to the high rate of obsolesence of imported technology. There is no substitute for self-reliance based on indigenous basis and applied research. This is the only way early obsolesence can be avoided. Situations may however exist, as with certain well established technologies, where it would admittedly be futile to expend large sums of money in repetitive research and development efforts rather than importing the know-how for appropriate development towards practical ends. On the other hand, we have the talent and resources for taking innovative leads on our own for absorbing imported technologies as well as for competing with contemporary technological advances elsewhere. These should be encouraged.

Lack of proper planning and adequate funding have brought our educational system to a position of stalemate wherein teachers and educators find themselves in the enviable position of having to train large number of students in our colleges and universities. This has led not only to unhealthy proliferation of higher education which has no relevance to the needs of the country but also to an increase in the number of educated unemployed. Vocational training at schools is just a paper plan and polytechnics as well as Industrial Training Institutes as planned today have a long way to go before they are useful to the needs of the area. No attempt has been made to improve the social status of a technical worker so that people who wish to become technicians are always made to feel inferior to an administrator. In recent times, there is a feeling that even scientists will be reduced to the position of secondary citizens in matters of decisions making compared to those in administration. We would like to point out that in the advanced countries, professors and other skilled professionals are highly respected in the community similar to what used to be in ancient India. It is not fully recognized and we should like to emphasize that good science and technology at the frontiers are required for solving complex problems of rural development and for this purpose, proper interfaces have to be developed. It has often been stated that scientists must work in villages. Unless specially trained for this purpose, it would be a waste of their aptitude and training. Their views are rarely accepted at the village especially if they are outsiders.

We understand that science is being reorganised at all levels and the structure of scientific agencies is being altered. It is no doubt necessary that the various commissions and agencies created in the past require reorganisation from time to time. However, it would be in the interests of the country if premier scientific bodies like the Indian National Science Academy are asked to give their views. It is in the interest of science that important decisions on science are not taken by individuals without consultation of a cross-section of the scientific community. It is for this reason as one of the biggest democracies in the world, we must plan for a system in which the difficulties under which scientists work are brought to the attention of the authorities concerned in as many ways as possible. The INSA is a body recognised for this purpose and would be happy to make its resources available to the Government in all possible ways, whether it is in planning, reorganisation of scientific structures, availability of experts or the evaluation of the scientific achievements of the country.

Whatever approach we adopt to improve economic conditions, the development of science in all its aspects is inescapable in a large country like India. We spend comparatively so little in R and D as a percentage of our G.N.P. If this is increased even marginally, the inevitable progress of becoming a prosperous country through science and education will be greatly speeded up.

The Academy welcomes the statement of the Prime Minister that every effort will be made to ensure that no one in this country remains unemployed within a period of ten years. This in our view can be achieved only through a scientific utilization of all our resources, material and human.

The Academy extended its fullest cooperation and support to the Government in their endeavours to eradicate poverty to improve rural economy as well as to evolve plans for development through science and technology.

Bihar libraries lagging behind

Prof. Ugra Mohan Thakur, Director of UNESCO Information Centre, Patna University has pleaded for immediate improvement of libraries in the universities. He has suggested that refresher courses and seminar be organised frequently to improve their conditions.

The libraries in Bihar Universities do not have enough facilities due to paucity of funds. The Kothari Commission on Education had recommended an expenditure of Rs. 25 per student on books and other reading materials every year but the universities in the State do not spend more than three rupees per student on this account. Though there are more than three lakh students and teachers in eight universities of the State, the annual grants to these Libraries do not exceed nine lakhs of rupees.

The Patna University Library which came into existence as early as 1917 caters to the need of 15,000 members of its academic community. The total number of books and periodicals is 2,15,000 and 500 respectively. The annual grant for this library for purchase of books and journals is Rs. 55,000 though annually about 1,00,000 books are issued to 83,470 readers.

The Bhagalpur University Library, which shifted to its new building in 1969, possesses nearly 55,000 books and 439 periodicals. The total enrolment of students is about 40,000. About 25,000 books are issued to 16,000 readers every year. The budget provision for purchase of books and periodicals is Rs. 50,000.

The Bihar University Library which was founded in 1952 caters to the requirements of 55,000 students. There are about 50,070 books and 87 periodicals in the library. It lends 32,000 books to 31,000 readers in a year. The annual grant to this library is about Rs. 34,000.

The Kameshwar Singh Darbhanga Sanskrit University has a central library which has a collection of manuscripts, books and records on diverse subjects. At present there are about 9,000 books, 5,000 manuscripts and 1,250 periodicals in the library. About 350 books are issued every year, while the total enrolment is 4,000.

The L.N. Mithila University Library was established in 1972. It has a collection of over a lakh of books and 400 periodicals. It received rich collections from the Mithila Raj. It also received a sum of Rs. 3 lakhs for the purchase of books and periodicals in order to meet the requirements of about 60,000 students.

The Magadh University Library caters to the needs of 51,000 students, has 66,605 books and 42 periodicals in its possession. About 5,083 books are issued to 8,325 readers every year. The total space available for reading is at present 439 sq. ft. The university proposes to have a bigger library soon. It receives a grant of Rs. 2,10,000.

The Ranchi University Library which was founded in 1963 serves the requirements of 50,000 students. It possesses 65,580 books and 3,590 journals. Approximately 1,000 sq. ft. of reading space is available in the library. About 83,000 books are issued and 51,500 readers visit the library every year. The library receives 1.44 lakhs for the purchase of books and journals every year.

The Rajendra Agriculture University has no central library of its own. All the five constituent colleges of the university have their separate libraries.

The university library is still under construction.

The progress of libraries in Bihar has been hampered mainly due to lack of sufficient staff and adequate grants. There are about 2,000 staff members serving in different kinds of academic libraries in the State. Most of the university libraries are trying to build up their collections with a handful of underpaid and under-equipped staff.

Changing pattern of education

The Punjab Government called a conference to discuss the educational system in the State with special reference to the proposed 10+2+3 pattern of education. The Conference was held at the Punjabi University Campus in Patiala and was attended by prominent educationists. The consesus of the Conference was that the education pattern in the State should be in line with that of the country and it should be suitably adapted keeping in view the local conditions and requirements.

Mr. Sukhjinder Singh, the Education Minister, who presided, in his address emphasised the need for reforming the existing system of education so as to make it more purposeful to the changing pattern of society.

Dr. Gopal Singh, Chairman, State School Education Board, said that during the last three decades the country has not moved purposefully either towards socialism or towards capitalism and this drift has created a lot of confusion. He said education should be a long term project to assist the changing socio-economic system of the country and should be in line with the national aspirations. It should be tuned fully with the political changes in the country. The need of the time was industrialisation and this aspect should not be ignored while formulating the educational policies.

Dr. D.V. Vij, Principal of the College of Education laid stress on the maximum utilisation of existing resources. He observed that in a number of schools equipment was lying unused. The services of specialised teachers were not being utilised properly. He laid stress on strengthening of primary education and improving the conditions of the schools and teachers at this level.

Dr. Amrik Singh Cheema, Vice-Chancellor of Punjab Agricultural University, felt that there was urgent need of effecting reforms in the existing ten year school system so that ultimately vocational training could be adopted. He predicted that in times to come there will be a growth of industrial village-towns throughout the state. So he wanted that educationists should keep this aspect in view while formulating the future educational policy.

Mr. B.S. Bahl, Principal of D.A.V. College, Jullundur, referred to the huge national wastage in the present system of education. He suggested the formation of junior colleges on the pattern of community colleges. Rural colleges with the addition of some facilities could be easily converted into junior colleges without much difficulty. He pleaded for maintenance of colleges without much difficulty. He pleaded for maintenance of college standard along with their graded expansion.

Mrs. I.K. Sandhu, Vice-Chancellor of the Punjabi University was of the view that the present school sylabii and courses of reading were over stuffed and various steps would have to be taken to make reading more profitable.

The main focus of the Conference was on the changes in the education system, the need of making it conform to the needs of the society and to the maximum utilisation of the existing resources.

The Education Minister in the closing address pleaded for the strengthening of the education system at the school level. This should be achieved as quickly as possible in the larger interest of the society.

Delhi concession for sportsmen

There is a proposal to relax percentage of marks for admission to various undergraduate and postgraduate courses in the University of Delhi for outstanding sportsmen and sportswomen. The proposed relaxation for admission to undergraduate courses will be applicable to those students who have either represented the country in any game during the last three years or have secured any of the first three places in any game in national school games and junior national level tournaments or have taken part in the national school games during the last three years.

For admission to postgraduate courses the relaxation will be applicable to those who have represented India in any games during the last three years or have secured one of the first three positions in national level tournaments during the last three years or have been either first, second or third in the inter-zone university tournament or have represented Delhi University in the inter-university tournaments during the last three years.

Subscription Rates

Period	Inland	Abroad	
		Surface	Air
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1 year	16.00	80.00	140.00
2 years	30.00	150.00	260.00
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5 years	72.00	350.00	550.00
Single copy	00.80 ps.	4.00	8.00

The Journal is mailed on 1st & 16th of every month.

India to launch satellite in 1980

India's own satellite is expected to be ready and put in position by 1980-81. It will replace the use by the country of the International Telecommunication Satellite (Intelsat) over the Indian Ocean which is to function by the end of next year.

The Indian Satellite will be positioned at 70° east longitude and will be used both for communication and television and allied purposes. The satellite is expected to bring about a communication revolution as the induction of satellites into national service would transform the communication services in a big way. Special efforts were being made to establish communication links with remote areas like Andamans and the North Eastern and Northern parts of the country with the rest of the country through these satellites. Special earth stations will soon be set up for this purpose in Delhi, Madras the island communities and in the Northern and North Eastern areas.

Though the telecommunication equipments were being manufactured by the Indian Telephone Industries in the country yet the import of technology was still necessary particularly in the field of electronics and cross-bar telephonic system.

Madurai starts open university system

The Madurai University has introduced the open university system from the current academic year. Any resident of Tamilnadu or Pondicherry who is twentyfive years of age or above could now be eligible to undergo the Bachelor's degree course. No minimum educational qualifications has been prescribed for admission. The course would benefit particularly those persons who discontinued their education and are now desirous of taking up higher education.

UGC Review Committee reports to the Ministry of Education

(*Continued from page 459*)

basis preferably by an administrator with experience of education or an academician with administrative experience.

Arrangements should be made for in-service training of various categories of staff.

The UGC should evolve its own procedures suitable for the efficient functioning of an organisation dealing with academic policies and programmes. It should evolve a system of periodic review of its working and organisation at least once every ten years.

The name of the University Grants Commission may more appropriately be changed into University Education Commission. The Commission's prior approval to the establishment of new universities and colleges should be obligatory.

The Commission's functions should include activities relating to development of standards and coordination in respect of all universities and colleges in the country. It should be entrusted with the task of research, planning and evaluation of higher education. The Commission should particularly be authorised to evolve a system of accreditation of university departments and colleges. It should by law be given the power to recommend to government derecognition of a degree of a university on grounds of lack of standards in the same manner as the Indian Medical Council is empowered in respect of a medical college.

The annual report of the Commission should besides giving a true and full account of activities also present before Parliament problems and prospectives of higher education and the situation in regard to coordination and standards in universities and colleges. The annual reports should be circulated to all universities and state governments.

The Commission should report separately on (i) the maintenance activities in respect of central universities and their affiliated colleges and such other institutions as may be given maintenance grants and (ii) the development activities in respect of all universities.

The Committee has also suggested that a high level coordination body with heads of different organisations dealing with higher education in research like UGC, CST, CSTR, AEC, ICSSR, ICHR, ICAR, ICMR and AICTE as well as senior representatives of the Ministries of Education, Health and Agriculture and the Planning Commission as its members, may be established to deal with matters of policy regarding coordination of activities and sharing of resources between areas of teaching and research involving universities falling within the purview of the UGC, higher educational institutions outside the purview of the UGC and non-university research organisations. This policy-making body should have a small standing committee which should from time to time review the implementation of its decisions and take other follow-up action.

In each state there should be a coordinating body, headed by the chancellor, consisting of all vice-chancellors of universities, selected college principals, independent academicians and representatives of the state government as well of UGC to effect coordination among higher educational institutions at the state level within the overall national policy.

The Commission should be given the authority to have plans prepared and implemented for exchange of teachers pooling of library and laboratory facilities, and coordination of research in universities.

It should be provided through proper legislative action that no university or college will be established unless the UGC concurs and is satisfied that there is proper planning and adequate provision of resources for the purpose.

The UGC should lay down guidelines in respect of enrolment policy which should be followed by universities and colleges.

For the guidance of state governments and institutions concerned the Commission should evolve norms of work-load for university and college teachers which should be applicable at all levels. These norms should take into account the requirements of staff for class-room lectures, tutorials, internal assessment, conduct and guidance of research and other activities.

The UGC should, with the help of academicians, draw a framework of remedial courses for students from weaker sections of society to enable them to get admission to universities and colleges on a level of equality.

A national examination should be organised jointly by the UGC, UPSC and AIU for post-graduates in different subjects and candidates who are declared successful in this examination should be given weightage for selection to the posts of lecturers and for research fellowships.

The Commission should maintain panels of experts in different subjects to be able to advise universities and colleges. The chancellors of universities should select their nominees on the selection committees out of the panel of experts maintained by the UGC.

UGC should concern itself with the methods of appointment and tenure of professors of universities. It should maintain a panel of suitable persons for professorships in different subjects to be able to commend such names should a university want them.

The Commission should help the universities to organize initial training of teachers in universities and colleges. It should have a proper follow-up and evaluation of in-service training programmes which it is conducting.

In view of the adoption of Hindi and regional languages media of instruction by various higher educational institutions, a detailed plan of action for training teachers to teach through the new media as well as for preparation of books and teaching material should be drawn up and implemented expeditiously.

New colleges should be set up only after a joint survey by the affiliating university, the UGC and the state government concerned regarding their need, location, courses of study, staff, limits of intake and other relevant factors. An adequate minimum financial support must be available before a college is started.

The UGC should, with the help of academicians, undertake continuous assessment of the standards of colleges and provide necessary guidance and help to them. It should be empowered to close down a non-viable college which only duplicates facilities already available in the same area or to reorganize it as an institution for providing vocational courses to suit the needs of the region.

A reasonably uniform and sound system of grant-in-aid to affiliated colleges all over the country should be evolved from time to time by UGC which should be followed by the governments concerned so that colleges are run with adequate resources. The Commission should also lay down guidelines and procedures so that the managing committees function in the best interests of colleges.

The Commission should provide guidance to existing colleges so that within a specified time, with necessary help, they improve their functioning and conform to required academic and administrative standards. The procedures should contain a provision that a college will be liable to be derecognised if it does not show the required improvement.

The Commission should take initiative in selecting autonomous colleges and, with the cooperation of the state governments, help them to function as such.

Priority attention should be given by the UGC to restructuring courses, particularly in rural colleges, to make them relevant to rural

Study Group for Autonomy

Eleven-member working group under the Chairmanship of Mr. B.G. Verghese, former Editor of Hindustan Times, has been set up to report within three months on how all India Radio and Television could be made autonomous institutions. The other members of the group are : Mr. V.G. Rajadhyaksha, Dr Malcolm Adiseshiah, Mr Chanchal Sarkar, Mr. P.L. Deshpande, Prof. Uma Shankar Joshi, Mr. A.G. Noorani, Professor J.D. Sethi, Dr. P.J. Fernandes, Mr C.R. Subramaniam and Dr Iswar Dass. The terms of reference of this group are :

(a) To examine the functional, financial and legal aspects of the proposal to give full autonomy to Akashvani and Doordarshan, consistent with accountability to Parliament keeping in mind the different forms of autonomous organizations existing in other democratic countries in the matter of broadcasting;

(b) To suggest the forms and the structure of the autonomous organization(s) and their relationship with Government;

(c) To consider and make recommendations in respect of the absorption, fitment and replacement of the personnel of the two media in the event of grant of autonomous status;

(d) Formulate plan of action for expeditious implementation of the proposal, if the recommendations of the Working Group are accepted by Government; and

(e) To examine any other allied matters necessary to enable Working Group to make the recommendations on the future setup of the media.

M.Sc. in Wood Science

The Academic Council of Calicut University has decided to start a two years MSc course in Wood Science with special reference to the wood industry flourishing in the northern parts of Kerala. This course will be the first of its kind and will cater to the needs of not only Kerala but other states.

Courses in Computer Technology

(From our special correspondent)

A computer has been installed at the Bombay University's Victoria Jubilee Technical Institute at Matunga. This computer centre provides remote computing facility also.

This has been made possible through a connection by a telephone link between the computer installed at the institute, TDC-316, and a very sophisticated computer, DEC-1077, at the Tata Institute of Fundamental Research. The advantage of this link is that technologists at Matunga need not travel 15 kms to Colaba where the Tata Institute is situated for better computing facilities.

The link has been established by the national centre for software development and computing techniques. According to the Director of the national centre, Prof. R. Narasimhan, there will be a network of computing facilities in Bombay. A second link between the national centre at the Tata Institute and the Indian Institute of Technology, Powai, is on the anvil. Later there will be other links through the use of VHF and microwaves.

It is envisaged that every university in the country will acquire a computer in the next five years and there can be an inter-city computer-to-computer linkage via a communication satellite. The univesity network will enhance the standard of Indian technologists and enable various scientific projects.

A computer network spanning cities will cost only a fraction of the cost of a modern aircraft.

The computer center at the Victoria Jubilee Technical Institute will try innovations in teaching programmes and examination system. The computer is proposed to be used to evaluate the students weekly.

Bombay University is planning a B.E. course in computer technology. The university has already invited applications from qualified candidates for admission to its new evening course in "computer science and application."

needs and provide guidance and help to universities to evolve new courses for the special needs of different regions.

Faculty improvement programmes as well as programmes for improvement of teaching in colleges must be carefully planned with the participation of college teachers and a system of regular follow-up and feedback evolved.

The Commission should take an over-all view of the financial position of universities and build up sound statistical information regarding different sources of income and different items of expenditure of universities and colleges. Such information together with data about per student cost in different institutions in terms of courses of study should be important considerations in the matter of allocation of grants.

Maintenance grants to central universities and their affiliated colleges should be separately budgeted, separately operated upon and dealt with in a separate report on maintenance activities as distinct from development activities.

The UGC Act needs to be suitably amended to empower the Commission to advance loans for construction of such buildings by higher educational institutions as would give them some returns, e.g., hostels and residences. The Commission needs to be provided revolving funds, for starting a loan scheme of this type. The loans should preferably be interest free and recoverable in easy instalments.

Centres of excellence like the centres of advanced study, which are intended to serve as pace-setters, need to be maintained by the UGC on a regular basis.

The Commission should also consider giving 100 per cent assistance for improvement programmes for post-graduate and research studies.

The UGC should act as an advisory agency for procurement of sophisticated equipment for higher educational institutions, thus saving time of individual institutions and also ensuring uniformity in quality.

A suitable organisation should be set up as a limb of the UGC, with adequate freedom in functioning, and it should continually be engaged in studies and research on various aspects of higher education. The science research council or other units already set up or proposed to be set up by the Commission should be merged with it.

The UGC, through this organisation, should conduct studies on various aspects of higher education like higher education costs and how to reduce them rural higher education and how to make it relevant to socio-economic needs of the vast rural areas, enrolment and admission policy in higher education, courses of study and examination reform, innovation in teaching methods, educational material and technology, development of languages and production of books. It should perform clearing-house functions on behalf of the UGC. It should have a sound statistical unit as well as units concerned with higher educational planning and evaluation of higher educational institutions in general and monitoring of UGC's improvement programmes in particular.

Research departments of universities as well as individual academicians should be involved in conducting research projects. Research activity should be linked with training programmes for higher educational planners and administrators.

Higher education planning should be the responsibility of the University Grants Commission which should work in close collaboration with the Planning Commission and with research bodies and other agencies dealing with specialised sectors of education not falling within the purview of the Commission. In order to have closer connection with the Planning Commission, Secretary, Planning Commission, should be an ex-officio member of the UGC. Similarly, the UGC and the University system should have closer links with the NCST and there should be larger representation of academicians on the latter body.

Educational planning in its very nature has to cover a generation and objectives as well as strategies have to be evolved in perspective. The UGC should prepare long term perspective plans for higher education and develop models suited to national needs. The plans for different five year periods should be drawn in the context of the perspective plan. The task of preparing plan proposals for the Commission's consideration should be entrusted to the proposed organisation for research, planning and evaluation.

The UGC in close cooperation with the Association of Indian Universities and other academic as well as professional bodies should undertake accreditation and grading of university departments and colleges and evolve a proper system of accreditation. The Commission be given the power to recommend to government derecognition of a degree of a university on grounds of lack of standards, as the Indian Medical Council is empowered in respect of medical colleges.

There should be a system of evaluation of Ph.D. theses, of examinations, of class teaching in higher educational institutions through teams of academicians.

A system should also be evolved for assessment by the universities and colleges of the performance of teachers on an annual basis. This annual assessment should be taken into account in making periodic evaluation of teachers for suitable reward to outstanding persons. There should also be a system of disincentives against poor performance.

The working of the visiting committees needs to be improved and a larger number of academicians of attainment and integrity involved in the task of assessment and evaluation of institutions.

All the programmes aimed at improvement of teaching and the faculty in university departments and colleges should be monitored regularly.

Bombay Seminar on Legal Education

The all-India seminar of the Bar Council of India was held recently at Bombay to consider how far the curriculum of the law colleges should be modified to give practical content to it so that the new entrant to the profession has a working knowledge of the tools of his profession.

Mr. Shashi Bhushan, Union Minister for Law, Judiciary and Company Affairs inaugurated the three day seminar. He felt that a greater emphasis in the curriculum should be laid to improve the professional skill. At the same time the student should be made aware of his obligations to the society. He emphasised on the revision of the system of legal education to ensure that the young entrant who becomes qualified as an advocate not merely knows a minimum of law but also has had instilled in him the rich idea as to the nature and quality of profession to which he is to belong. Mr. Bhushan said that the lawyers should continuously educate themselves so that they could discharge their duties efficiently. Law was a jealous mistress and demanded constant attention if the practitioner was not to be swamped under the increased deluge of statute law and case law. He suggested that the Bar Council or other professional bodies, either independently or in association with leading publishers could assist in instiling in the busy and not so busy practioners an awareness of the changes in the law which required their immediate attention since text-books would not be helpful in this respect.

He further said that the Advocates Act, 1961, had specifically provided for the Bar Council of India playing a role in promoting legal education and laying down standards of such education in consultation with the universities concerned and the State Bar Councils. The Law Commission had expressed itself against admitting candidates to the legal profession after the intermediate examination and had favoured a general liberal education as exemplified by graduation being an essential pre-requisite to the study of law. He wanted that the young entrants for the profession should undergo internship as in the profession of medicine and accountancy.

Mr. M. C. Chagla, former Union Minister and an eminent jurist, expressed the view that admission of students to the legal studies should be on a selective basis. He said that the success of the new pattern of education depended on the availability of trained teachers and also the syllabus that would be chalked out for it. English had played an important role in the freedom movement and in maintaining unity. Today it had become an international language and it no more remained the language of the British, the Americans or anyone in particular. It would be very difficult task to translate all statutes and laws into Hindi and it would only open a Pandora's Box. He pleaded for its retention as the medium of instruction.

Prof. T.K. Tope, Vice-Chancellor of Bombay University recalled that a committee under the chairmanship of Mr. Chagla, who was then the Chief Justice of Bombay High Court, had suggested that a degree was not essential for admission to study of law. A similar recommendation had also been made earlier when a pass in intermediate examination was considered sufficient for enrolment to a law studies.

Professor Satish Chandra, Chairman of the University Grants Commision stated that as an experimental measure it had been decided to accept a pass in intermediate stage as sufficient for admission to study of law.

The Seminar also discussed the effect of new pattern of education on legal education particularly with regard to entrance qualifications, duration and curriculum and the problems of continuing legal education.

LIBRARY

Adiseshiah pleads for employable graduates

Dr Malcolm S. Adiseshiah, Vice-Chancellor of Madras University, inaugurated the training project for self employment among graduates in Madras. The programme was organised by the State Small Industries Service Institute and the University Students Informatinn Bureau jointly. The Vice-Chancellor said that the aim of all university reforms should be to bring out employable graduates. According to the figures provided by the employment exchange, there were 15 lacs unemployed under-graduates, graduates and post-graduates in the country as on December 31, 1976 and the figure for Tamilnadu was more than 4 lacs. He said that one of the contributory factors to the student unrest was unemployment among the educated. The incidence of student unrest was negligible in courses where the students were sure of employment. The Union and State Governments were now paying special attention to the development of industries in the small scale sector. University was also keenly alive to the problems. The syllabus of various courses were constantly under review in the context of this situation. The University of Madras has organised numerous self employment programmes for the benefit of its students from time to time to help the students.

Study leave rules liberalised

The University Grants Commission has further liberalised the study leave rules for university and college teachers in Delhi. It has now been decided that these teachers will receive all the benefits due to them in addition to salary they draw. Rules regarding study leave have been brought at par with those for teacher fellowships. In the past, the fellowships were preferred by teachers in comparison to study leave.

INDIAN SCHOOL OF MINES
DHANBAD-826004

Advt. No : 420031/77 **Dated August 5, 1977**

Indian School of Mines, which is deemed to be a University under the UGC Act, wishes to recruit a Registrar and a Deputy Registrar (Accounts) as below :

REGISTRAR

Pay Scale : Rs. 1500-2000, plus allowances as admissible to Government of India employees. Total emoluments currently payable at the minimum of the scale work out to Rs. 1803 only.

Job Description : The Registrar heads the administrative offices of the School and is responsible to the Director for proper functioning thereof and for :

(i) arranging meetings of all School authorities and keeping minutes thereof;
(ii) holding custody of all funds and properties of the school and to manage the same ;
(iii) maintaining the School Accounts and preparing Annual Estimates and Statements of Accounts.

The Registrar is also the Secretary of the General Council, the Executive Board and the Finance Committee of the School.

Qualifications

1. Master's Degree in Science/Arts/Commerce/Administration or a Degree in Engineering/Technology, with not less than 60% marks. (Essential but relaxable in case of candidate otherwise considered specially suitable.)
2. About ten years administrative experience in positions of responsibility in an academic institution or university or research institute, or a Government Department/autonomous organisation dealing with academic matters (including about three years experience as Registrar of a degree level College or Deputy Registrar of a university level institution or equivalent position). (Essential)
3. Familiarity with academic (including examination) matters and financial matters (such as budgeting, accounts, etc.). (Essential)
4. Knowledge of Government rules and regulations, including those relating to accounts. (Desirable)
5. Experience of organising meetings and handling agenda and minutes. (Desirable)
6. Capacity to develop corporate life within an educational institution.

Those who have applied in response to the earlier advertisement of 19th March, 1977 need not apply again.

DEPUTY REGISTRAR (ACCOUNTS)

Pay Scale : Rs. 1100-1600, plus allowances as admissible to Government of India employees. Total emoluments currently payable at the minimum of the scale work out to Rs. 1,403 only.

Job Description : Responsibility for (i) internal audit of all receipts and payments, (ii) ensuring proper maintenance of accounts and records, and (iii) assisting Director/Registrar in managing the financial affairs of the School, including preparation of budget estimates and preparation of Statement of Accounts, etc.

Qualifications

1. Pass in Final Examination of Institute of Chartered Accountants of the Institute of Cost and Works Accountants. (Essential but relaxable in case of candidates otherwise considered specially suitable and proficient in double-entry system of accounts, to (a) a good Master's Degree in Commerce, or (b) a good degree with pass in Subordinate Accounts Service Examination of the Government.)

2. Experience for about ten years (relaxable to six years in the case of a Chartered or Costs and Works Accountant) in the maintenance and control of accounts in a large educational/research institution (or industrial undertaking or Govt or Semi-Govt Organisation) of which three years should have been in a position of responsibility. (Essential).
3. Experience in handling agenda, minutes and procedure of meetings. (Desirable).
4. Experience of administration in a residential institute (Desirable)

GENERAL

1. AGE normally not more than 45 years for Registrar and 40 years for Deputy Registrar (Accounts), relaxable in case of persons otherwise considered specially suitable. Upper age limit also relaxable by five years in respect of (i) candidates belonging to Scheduled Castes/Tribes, (ii) displaced goldsmith, and (iii) displaced persons from Bangladesh (the erstwhile East Pakistan) who had migrated on or before 1.1.1964.

2. APPLICATION in the prescribed form (obtainable from the Registrar, Indian School of Mines, Dhanbad-826004 on receipt of a self-addressed envelope of the size 30 cms × 12 cms affixed with postage stamps of the value of Rs. 2.65) should reach the Registrar on or before **12th September, 1977.**

3. Applications should be accompanied by a Money Order receipt for a sum of Rs. 8/- (Rs. 2/- for Scheduled Caste/Tribes candidates) in token of remittance of APPLICATION FEE to the Registrar, Indian School of Mines, Dhanbad-826004.

4. Those IN SERVICE should apply through their employer. If the application through proper channel is likely to be delayed, an advance copy may be submitted but in such a case the original application must also reach the Registrar within 10 days of the aforesaid date.

5. The School reserves the right to consider cases of CONTACT CANDIDATES whose names have been suggested by Universities or other authorities, etc., even though they may not have formally applied for the post.

6 Candidates called for interview will be paid 1st class railway fare for to-and-fro-journey by the shortest route, or the actual expenses incurred, whichever is less.

CANVASSING IN ANY FORM WILL BE CONSIDERED AS DISQUALIFICATION.

S. K. BORDIA
REGISTRAR

In Brief

Mr M. G. Ramachandran, the Chief Minister of Tamilnadu has announced recently that parent-student-committees involving officials would be set up in different educational centres throughout Tamilnadu. These committees will look into the grievances of students and help in maintaining peaceful atmosphere in the educational campuses.

* * *

The University Grants Commission would be assisting Calcutta University to organise a post M.Sc course on the History of Science & Technology. The University has set up a special committee to prepare the model sylabii for this course which will be first of its kind in the country.

* * *

The Maharashtra Government has fixed a quota of each university in the State for the additional seats in the first year of medical college. Out of a total 700 additional seats sanctioned by the Centre, 315 will be allotted to Bombay University, 130 to Poona University, 85 to Shivaji University and 70 to Marathwada University. The Minister of State for Health, Mr Sashi Kumar Shinde, made this announcement in Bombay. The students had been agitating for quite some time for the increase of seats in the medical faculty.

Assam Committee on Education

The Government of Assam has appointed an expert committee on higher education to study the problems of education at the district level. The Committee is expected to submit its report by October next. In the first phase of its spot study tour, the Committee visited the districts of Goalpara, Dhubri, Kokrajhar, Barpeta and Nalbari. The members met the principals of the colleges and sponsoring authorities of new colleges and higher secondary schools and discussed with them their problems of academic development and studied the feasibility of different schemes of expansion proposed by these colleges and secondery schools.

Personal

1. Dr. A. Ramachandran, Secretary, Department of Science & Technology would also work as Director-General of the Council of Scientific & Industrial Research.

2. Dr. M.S. Swaminathan, Director General of Indian Council of Agricultural Research has been elected Vice-President of XV International Conference of Genetics to be held in Moscow next year.

3. Dr. Jagdish Chandra Dikshit, Vice-Chancellor, Ravi Shankar University, Raipur has resigned.

4. Dr. H. Narasimhaiah, Vice-Chancellor of Bangalore University, has resigned.

5. Professor K.S. Bhargava, Head of the Department of Botany has been appointed Pro-Vice-Chancellor of Gorakhpur University.

6. Prof. G. Ram Reddy has taken over as Vice-Chancellor of Osmania University.

7. Dr. J.D. Singh of the Linguistic Department of Kurukshetra University has been appointed Pro-Vice-Chancellor of Dayanand University, Rohtak-

8. Professor B.D. Sharma, Registrar of Kurukshetra University has been appointed Pro-Vice-Chancellor of the University.

A Hundred Flowers : A study conducted by Registrars & Administrative Officers

M. K. Subramaniam*

The story of the Hundred Flowers nurtured in the Bella Vista garden at Hyderabad is the story of a ceaseless activity of a restless group of educational administrators who came together voluntarily to raise case-nurseries all over India that will feed the Bella Vista garden, the Headquarters of the Seminar of Registrars and Administrative Officers of All-India institutions in the fields of Science, Technology and Management. The five IITs, the three IIMs, the IISc Bangalore, TIFR, Bombay, Tata Institute of Social Sciences, Bombay, Institute for Social and Economic Change, Bangalore, the Indian School of Mines, Dhanbad and the ASCI, Hyderabad form the Seminar institutions.

Starting from humble beginnings at the Indian Institute of Science (IISc) Bangalore in 1968, the Seminar built up step by step a volume of shared experiences of their problems and activities in the first two-three years. The Seminar members were fully aware of the fact that "the type of administration required for the growth of Science and Technology was quite different from the type of administration required for the operation of industrial enterprises. Both of these were again quite different from the administration required for such matters as the preservation of law and order, administration of justice, finance and so on".

It was this deep awareness that saw the genesis of the Seminar and its activities. The seeds were sown and the seedlings germinated into a blooming plant growing with vigour. As the Seminar plant grew in strength, it branched into four major activities:

Annual Seminar Meetings for Registrars and Administrative officers—six held so far in various Seminar institutions.

Administrative Development Programmes (ADP) for Deputy/Assistant Registrars and equivalent level officers—**three** organised so far at Bella Vista.

Project Studies on problems of critical importance to the Seminar institutions—two completed and one in progress.

Case Building Activity—A Hundred Flowers have bloomed. Besides six annual seminars and three ADPs, the Seminar conducted successfully :

One Case Workshop for Registrars, Administrative Officers, Deputy/Assistant Registrars and Principals of Colleges of A.P. State organised at Bella Vista, Hyderabad.

Four Desk Level Programmes for Junior Administrative staff in the various seminar institutions.

Simultaneously with the ADPs and the Case Workshop, concerted efforts were made to develop case studies which would highlight the different kinds of administrative problems so typically characteristic of the higher education institutions.

Future Programmes

The Seminar has so far been successful in gathering more than hundred Case-flowers which would form the material for the following Case Books to be published shortly by the Seminar:

Case Book on Higher Education Administration & Case Book on Collegiate Administration

These two Case Books are pioneering ventures of our Seminar and will be the first book of their kind to appear on the Indian scene.

A typical administrator deals with challenges and dilemmas in his daily activities that are far more complex and different than what would seem obvious. By reflecting on those challenges and dilemmas faced by the Registrars, Deputy/Assistant Registrars, Principals of Colleges and other educational administrators in various institutions of higher education in India, in the lively cases included in these two Case Books, the Seminar has attempted to impart a feeling of the real world of work with all its enchantment, complexities, conflict, confusion, tension and excitement. The incidents and problems illustrated in these cases are based on actual incidents. We have very much to learn from the "hard-core" of experience of these educational administrators playing important roles in the turbulent atmosphere of educational institutions. The cases also serve to illustrate the management concepts and techniques which are applicable to the educational sector.

The Seminar hopes to conduct the following programmes in future :

1. Administrative Development Programmes
2. Case Workshops
3. Seminar for Secretaries/PAs and for Junior Administrative staff

The membership of the Seminar is entirely voluntary depending upon the interest and enthusiasm of the Registrars and Administrative Officers of the organisations, who are desirous of enriching their knowledge by sharing their experience with others.

Dear Subscriber

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**Programme Coordinator, ASCI, Hyderabad.*

Conferences, Seminars and Workshops

September-November, 1977

Date	Title	Venue	Sponsoring Body
29 Aug— 3 Sept	Seminar on leadership and organisation development	Hyderabad	Administrative Staff College
29 Aug— 9 Sept	Third training programme on financial management for finance officers of universities	Delhi	National Staff College for Ednl Planners & Administrators
1 Sept—10 Sept	Management of research systems	Hyderabad	Administrative Staff College
2 September	Productivity measurement in Non-Ferrous metals	Delhi	Inst of Economic Growth
3 Sept— 5 Sept	Contemporary issues in elementary education	Tirupati	Sri Venkateswara University
5 Sept— 9 Sept	Human resources utilisation	Calcutta	Calcutta Productivity Council
5 Sept— 9 Sept	Project Management	Chandigarh	Nat Productivity Council
5 Sept—10 Sept	Metal mining systems	Dhanbad	Indian School of Mines
5 Sept—24 Sept	Programme in materials management	Poona	Central Inst of Road Transport
5 Sept—26 Sept	Workshop-cum-seminar on lexicography 1977	Trivandrum	Malayalam Lexicon, Kerala University
9 September	Economic appraisal of bio-gas units	Delhi	Inst of Economic Growth
12 Sept—15 Sept	Handling, storing and utilisation of coal in cement plants	New Delhi	Cement Rest Inst of India
12 Sept—24 Sept	Surface mining	Dhanbad	Indian School of Mines
12 Sept—24 Sept	Training course for state educational planning officers	Delhi	Nat Staff College for Ednl Planners & Administrators
14 Sept—16 Sept	International Symposium on Nuclear Physics	Calcutta	Variable Energy Cyclotron Laboratory
15 September	Engineers day	New Delhi	Inst of Engineers (India)
16 Sept—17 Sept	Hospital management	Calcutta	Nat Productivity Council
16 Sept—19 Sept	Seminar on Design and Standardisation of Electrical Machinery and Equipment	Hyderabad	Inst of Engineers (India)
18 Sept—19 Sept	Seminar on the problem of white collar crime in India	Amritsar	Guru Nanak Dev University
19 Sept—23 Sept	Advanced materials management	Delhi	Nat Productivity Council
19 Sept—28 Sept	Employment and Manpower planning at National & state levels	Delhi	Inst of Applied Manpower Research
26 Sept—29 Sept	Workshop on Law of the sea	Mysore	University of Mysore
26 Sept—30 Sept	Personnel management in an interdisciplinary approach	Bangalore	Nat Productivity Council
26 Sept—30 Sept	Seminar in magnetohydrodynamics and plasma dynamics	Chandigarh	Dept of Maths, Panjab University
26 Sept—30 Sept	Quality concrete: production and control	New Delhi	Cement Res Inst of India
26 Sept—1 Oct	Metal mining machinery	Dhanbad	Indian School of Mines
30 September	Pattern of population growth: a district-wide analysis 1901-71	Delhi	Inst of Economic Growth
September '77	Seminar on integrated rural development	Waltair	Dept of Cooperation & Applied Economics, Andhra University
September '77	Seminar on Television Engineering in India	Delhi	Inst of Engineers (India)
IInd half September	Summer Institute in theory and practice of public administration	Udaipur	Dept of Political Science, University of Udaipur
Sept/October '77	Summer Institute in contemporary trends in geography	Shillong	Dept of Geography, NE Hill University
1 Oct—10 Oct	Symposium on literature and society 1945-1975	Jodhpur	University of Jodhpur
3 Oct— 6 Oct	Mineralogical control in cement making	New Delhi	Cement Res Inst of India
3 Oct— 7 Oct	Seminar on librarianship and information science	Delhi	University of Delhi
3 Oct—15 Oct	Applied geochemistry and geochemical exploration	Dhanbad	Indian School of Mines
3 Oct—15 Oct	Industrial engineering	Poona	Central Inst of Road Transport
3 Oct—15 Oct	Workshop on the phenomenology of particle interactions	Jammu	PG Dept of Physics, University of Jammu
5 Oct—10 Oct	XXXII International Homoeopathic Medical Congress	New Delhi	
8 Oct— 9 Oct	IETE Symposium on Electronic devices	Calcutta	Institution of Electronics and Telecommunication Engineers
8 Oct—15 Oct	Restructuring of practicals relevant to theory (in Chemistry)	Vijaywada	Andhra Loyola College
10 Oct—12 Oct	Seminar on Organometalic Chemistry	Lucknow	Chemistry Dept, Lucknow University
10 Oct—14 Oct	Seminar on National Plan for the education & training of library and information science personnel	Lucknow	University of Lucknow
10 Oct—15 Oct	Corporate strategies and long-range planning	Chail (Himachal Pradesh)	Nat Productivity Council
10 Oct—30 Oct	Workshop on the technique of editing old manuscripts	Udaipur	Dept of Hindi, University of Udaipur
17 Oct—21 Oct	Regional Asian Conference on the Family as a unit of welfare in National Planning	Delhi	1. I.C.S.S.R. 2. Int. Union of Family Organisations 3. Family Planning Foundation in India

Date	Title	Venue	Sponsoring Body
18 Oct—20 Oct	Management of rural distribution	Bombay	All India Management Association
23 Oct—29 Oct	International Paediatrics Conference	Delhi	All India Institute of Medical Sciences
24 Oct—26 Oct	Materials Science Symposium 1977 on Structure property correlation & instrumental technique in materials research	Rourkela	Regional Engineering College & Dept of Atomic Energy
24 Oct—28 Oct	Design and construction of tall industrial structures	New Delhi	Cement Research Inst of India
24 Oct—29 Oct	Human resources development	Lucknow	National Productivity Council
24 Oct—29 Oct	Marketing of agricultural inputs	Hissar	National Productivity Council
24 Oct—29 Oct	Personnel Management for mining executive	Dhanbad	Indian School of Mines
24 Oct—29 Oct	Public Relations	Poona	Central Inst of Road Transport
24 Oct— 2 Nov	Manpower planning and development at the Enterprise level	Lucknow	Inst of Applied Manpower Research
28 Oct—29 Oct	All India Symposium on natural resources and their utilisation	Bhopal	School of Biological Sciences. Bhopal University
29 Oct—31 Oct	Seminar on Urban History	Amritsar	Guru Nanak Dev University
31 Oct— 4 Nov	Application of calorimetric methods for rapid chemical analysis and quality control in cement plants	New Delhi	Cement Res Inst of India
October '77	Ayurvedic Research Seminar on Respiratory Diseases	Jamnagar	Gujarat Ayurved University
October '77	Seminar on Hindi poetry of post-independence period	Bombay	University of Bombay
October/Nov '77	Refresher course in research methodology	Rajkot	Saurashtra University
October/Nov '77	Seminar on reforms in the Indian Judicial system	Udaipur	College of Law. Udaipur Univ
1 Nov—30 Nov	XXI Hospital Administration Course	New Delhi	Nat Inst of Health Administration and Education
2 Nov— 4 Nov	Management of corporate insurance	Calcutta	All India Management Association
2 Nov— 4 Nov	Symposium on comparative animal physiology	Dharwar	Karnatak University
2 Nov— 6 Nov	IASLIC Conference	Dharwar	Karnatak University & IASLIC
7 Nov—12 Nov	Industrial electronics	Baroda	Nat Productivity Council
10 Nov—12 Nov	Fourth National Heat and Mass Transfer Conference	Roorkee	Dept of Mechanical & Industrial Engineering. Univ of Roorkee
10 Nov—13 Nov	Ecology and conservation of birds and mammals in India	Bangalore	Indian Institute of Science
12 November	Instrumentation and measurement including industrial electronics	Madras	Institute of Electronics and Telecummunication Engineers
14 Nov—17 Nov	Management of concrete construction	New Delhi	Cement Res Inst of India
14 Nov—19 Nov	International Solar Energy Congress	New Delhi	
21 Nov—22 Nov	2nd National Conference on Portable Power Sources	Bombay	Society for the Advancement of Electrochemical Science & Technology
21 Nov— 3 Dec	Linear programming and operations research	Dhanbad	Indian School of Mines
21 Nov—10 Dec	Management Information systems	Poona	Central Institute of Road Transport
22 Nov—24 Nov	First All India Symposium on Metabolism and disposition of Xenobiotics	Aurangabad	Marathwada University
22 Nov—26 Nov	Management of Growth of Tourism in India	Agra	All India Management Association
November '77	Orientation of secondary teacher educators in Microteaching	New Delhi	N.C.E.R.T.

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Agriculture
Marketing of agricultural inputs 24 Oct — 29 Oct '77

Biological Sciences
Ecology and conservation of birds and mammals in India 10 Nov—13 Nov.
First All India Symposium on Metabolism & Disposition of Xenobiotics 22 Nov—24 Nov.
Symposium on Comparative Animal Physiology 2 Nov—4 Nov.

Building and Building materials
Design and construction of tall industrial structures 24 Oct—28 Oct.
Management of concrete construction 14 Nov—17 Nov.
Mineralogical control in cement making 3 Oct—6 Oct,
Quality concrete: production and control 26 Sept—30 Sept.

Chemistry
Application on colorimetric methods for rapid chemical analysis and quality control in cement plants 31 Oct—4 Nov.
Seminar on Organometallic Chemistry 10 Oct—12 Oct.

Criminology
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Pattern of population growth : a district wide analysis 1901-71	30 September '77
Regional Asian Conference on the Family as a Unit of Welfare in National Planning	17 Oct.—21 Oct.
Tourism	
Management of growth of tourism in India	22 Nov. 26—Nov.

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New Delhi-110001

CURRENT DOCUMENTATION IN EDUCATION

A list of select articles culled from Periodicals received in AIU Library during August, 1977

EDUCATIONAL SOCIOLOGY

Caston, Geoffrey. "Conflicts within the university community". *Studies in Higher Education* 2(1); Mar 77: 3-8.

Hiremath, R.C. "Role of universities in integrated rural development". *University News* 15(14); 16 July 77: 380-1,383.

Sanghvi, H.S. "Youth activities in university." *University News* 15(15); 1 Aug 77: 404-5, 412.

EDUCATIONAL PLANNING

Misra, R. G. "Problem of linkage between +2 and +3 levels". *University News* 15(15); 1 Aug 77: 406-8.

Sharma, G.D. "10+2+3 New pattern of education: Window dressing?". *Mainstream* 15(47); 23 July 77: 24-6.

Woodcock, Lynda. "You may not like it but it is good for you . . .". *University Affairs* (Ottawa) 8(6); July 77: 4,17.

EDUCATIONAL ADMINISTRATION

Ames, Michael D. "Costing and data management: Development of a simplified system for smaller colleges and universities". *Journal of Higher Education* 47(5); Sept-Oct. 76: 589-605.

Centra, John A. "Faculty development practices". *New Directions for Higher Education* (17); Spring 77: 49-55.

David, Miriam. "Size and education — a chimerical relationship?". *New Universities Quarterly* 31(1); Winter 76/77:73-108.

Moss, Charles E. and Gaither, Gerald H. "Formula budgeting: Requiem or renaissance". *Journal of Higher Education* 47(5); Sept-Oct. 76: 543-63.

"STATEMENT ON government of colleges and universities". *American Association of University Professors Bulletin* 63(1); Feb. 77:32-6.

"UNIVERSITIES AS government departments". *Economic and Political Weekly* 12(31); 30 July 77: 1204-6.

Wergin, Jon F. "Evaluating faculty development programmes". *New Directions for Higher Edueation* (17); Spring 77: 57-76.

CURRICULUM

Fensham, Peter J. "Dimensions for defining the curriculum". *Studies in Higher Education* 2(1); Mar 77: 89-96.

Gould, Frank and Croome, David. "Foundation course 'Carousel' at PCL: An innovatory induction course in Social Sciences". *Studies in Higher Education* 2(1); Mar 77: 55-68.

Hewton, Eric. "Curricular implications of concentrated study". *Studies in Higher Education* 2(1); Mar 77: 79-87.

Pollar, R.C. "Need for change in chemistry degree courses". *Studies in Higher Education* 2(1); Mar 77: 15-19.

Turner, Ian. "Course without a structure". *Studies in Higher Education* 2(1); Mar 77: 21-32.

TEACHING

Brewer, Ilma M. "SIMIG: A case study of an innovative method of teaching and learning". *Studies in Higher Education* 2(1); Mar 77: 33-55.

Centra, John A. "How and why of evaluating teaching". *New Directions for Higher Education* (17); Spring 77: 93-106.

Cross, K. Patricia. "Not can, but will college teaching be improved?". *New Directions for Higher Education* (17); Spring 77: 1-15

Davis, Robert H. "Learning by design". *New Directions for Higher Education* (17); Spring 77: 17-31.

Gray, John and Satterly, David "Chapter of errors: Teaching styles and pupil progress in retrospect". *Educational Research* 19(1); Nov 76: 45-56.

Kozma, Robert B. "Learning and the instructional system." *New Directions for Higher Education* (17); Spring 77: 33-47.

Macgregor, John and Mcinnis, Raymond G. "Integrating classroom instruction and library research: Cognitive function of bibliographic network structures." *Journal of Higher Education* 48(1); Jan/Feb 77: 17-38.

Moomaw, W. Edward. "Practices and problems in evaluating instruction". *New Directions for Higher Education* (17); Spring 77: 77-91.

EDUCATIONAL RESEARCH

Derrick, T. "Criticism of inferential statistics". *Educational Research* 19(1): Nov 76: 35-40.

EVALUATION

Kegan, Daniel L. "Using Bloom's cognitive taxonomy for curriculum planning and evaluation in nontraditional educational settings". *Journal of Higher Education* 48(1); Jan/Feb. 77: 63-77.

ECONOMICS OF EDUCATION

Booth, G. Geoffrey and Jarrett, Jeffrey E. "Identification and estimation of a university's economic impacts". *Journal of Higher Education* 47(5): Sept-Oct 76: 565-76.

PROFESSIONAL EDUCATION

Gallagher, James. "Medical education—or mis-education?" *New Universities Quarterly* 31(2); Spring 77: 220-30.

Ramachandran, G. "Concept and significance of a rural university". *University News* 15(14); 16 July 77: 382-3.

ADULT EDUCATION

Bishop, John and Van Dyk, Jane. "Can adults be hooked on college?: Some determinants of adult college attendance". *Journal of Higher Education* 48(1); Jan/Feb 77: 39-62.

Bondeson, William. "Open learning: Curricula, courses, and credibility". *Journal of Higher Education* 48(1): Jan/Feb. 77: 96-103.

Chanan, Gabriel. "To sustain life—schools' concepts of adult work". *New Universities Quarterly* 31(1); Winter 76/77: 37-46.

Gooler, Dennis D. "Criteria for evaluating the success of nontraditional post secondary education programs". *Journal of Higher Education* 48(1); Jan/Feb 77: 78-95.

Purvis, June. "Low status ef adult education: Some sociological reflections". *Educational Research* 19(1); Nov 76: 13-24.

COMPARATIVE EDUCATION AND COUNTRY STUDIES

Ardhanareeswaron, B. "Educational perspectives". *Bulletin Madras Development Seminar Series* 7(5 & 6); May-June 77: 323-49.

Moorman, Paul. "How higher education works in Poland: A recent look". *University Affairs* (Ottawa) 8(6); July 77: 9-21.

Cleverly, John. "Deflowering the cultural revolution: Letter from China". *Change* 9(5); May 77: 32-7.

Malhotra, P. L. "Paper factories". *India Today* 2(15); 1-15 Aug 77: 38-40.

THESES OF THE MONTH

A list of Doctoral Theses Accepted by Indian Universities

SOCIAL SCIENCES

Psychology

1. Shyam Behari Singh. A study of personality of the parents of problem children. Kanpur University.

Sociology

1. Nandu Ram. Social mobility and status identification among the scheduled castes : A study of the scheduled caste government employees in Kanpur City. I.I.T., Kanpur.

2. Shah, Sulochana M. Social and political progress of women in India, 1828-1972. S.N.D.T. Women's University, Bombay.

Political Science

1. Dalui, Kartikchandra. Social mobility in Bengal. University of Calcutta.

2. Pandey, Sachchidanand. Indo-Bhutanese relations, 1947-71. Bihar University.

3. Shrivastava, Narender Kumar. Nehru ke netritv mein smajwad ka vikas. Jiwaji University.

4. Shrivastava, Raj Krishan. India's relations with Arab East 1947-64 : Nehru period. Kanpur University.

Economics

1. Amarjit Singh. Economic and social implications of new agricultural strategy in Jammu and Kashmir with special reference to R.S. Pura Block. University of Jammu.

2. Gupta, Mool Chand. A study of the socio-economic aspects of the problem of population in India. Kanpur University.

Public Administration

1. Jain, Ramesh. The organisation and working of Life Insurance Corporation of India : A case study of Sagar Branch. University of Saugar.

Education

1. Damodar, D. A critical investigation into the practice of student teaching and evaluation programme in the Training Colleges of Andhra Pradesh. M.S. University of Baroda.

2. Desai, Harrai Bhikhabhai. Changing teacher behaviour in the teaching of mother tongue and studying its effects on pupils. M.S. University of Baroda.

3. Gandhi, Kiritkumar Amrutlal. A study of school climate as a function of personality of school personnel and pupil control ideology. M.S. University of Baroda.

4. Giri, Chhidda. A study of the personality characteristics of athletes participating in contact, non-contact and semi-contact physical activities. Punjabi University.

5. Joshi, Snehalata Madhukar. Effectiveness of micro—teaching as a technique in teacher preparation programme. M.S. University of Baroda.

6. Lalithamma, M.S. An inquiry into class-room instruction. M.S. University of Baroda.

7. Mehare, Krishan Tukaram. Evaluation of administration of secondary teachers' training colleges in Maharashtra with special reference to the principal's role. M.S. University of Baroda.

8. Patyal, Chanchalisngh Barru Ram. A study of readability indices of the prescribed geography material for Class VIII and its effectiveness on reading comprehension. Sardar Patel University.

9. Pavanasam, Ramaswamy. Teacher behaviour and classroom dynamics. M.S. University of Baroda.

10. Upadhyaya, B.M. Construction and standardisation of an aptitude test for secondary school teachers. Saurashtra University.

Commerce

1. Dave, Gitaben Thakorlal. Urban Cooperative banks: A critical study. Sardar Patel University.

2. Vasava, Khodabhai Devjibhai. Distribution pattern of cotton textiles in Gujarat. Sardar patel University.

HUMANITIES

Philosophy

1. Verma, Kameshwar Prasad. The concept of reality in the philosophy of F.H. Bradley. Bihar University.

Linguistics

1. Bhattacharyya, Durlab Chandra. Influence of English on the Bengali language. University of Calcutta.

Literature

English

1. Dhanaraj, Laura. The fiction of C.P. Show. Andhra University.

2. Sinha, Ujjwal Kumar. The angry young men : A critical study of some younger British novelists of the nineteen fiftees. Bihar University.

Sanskrit

1. Mukherjee, Guru Sanker. Concept of riti in Sanskrit poetics. Rabindra Bharati.

2. Oberai, Madan Lal. A critical study of the technical terms (administrative and political) in Kautilya's Arthsastra. Punjabi University.

3. Shambhu Nath. Critical edition of Karka's commentary on Katyayana Srautasutras. University of Jammu.

Hindi

1. Ashtekar, Ganesh Tulsiram. Bharatendu Harischandra and Vishnushastri Chiplunkar: Life and work. Marathwada University.

2. Ramashish Prasad. Sant kavya mein rahasyavad. Bihar University.

3. Sinheswar Nath Singh. Adhunik Hindi kavita mein manviya rupankan, 1920-60. Bihar University.

4. Tripathi, Vasu Dev. Chhayavadottar Hindi kavya kee darshnic prishthbhumi. Kanpur University.

Oriya

1. Pattanayak, Ashutosh. Prachina Odiya sahityare Sri Radha. Utkal University.

Persian

1. Siddiqui, Nazir. Sheikh Ali Hazin : A critical estimation as a Persian scholar. Bihar University.

Tamil

1. Kasirajan, R. Evolution and evaluation of epic literature in Tamil with special reference to Cilappatikaaram. University of Kerala.

2. Sangeetham, Deva. The fiction of Dr. M. Varadarajan. Sri Venkateswara University.

Geography

1. Choubey, Kailash. Environment and nutritional deficiency diseases in the Eastern Malwa Plateau. University of Saugar.

2. Mishra, Chandra Bali. The changing pattern of resource use in the Eastern Satpura Region. University of Saugar.

3. Sharma, Jagannath Prasad. Land use in Eastern Lower Gandak Levee : An example from Ismailpur Panchayat, Hajipur. Bihar University.

History

1. Nagaraju, S. Rock-cut architecture of Konkan and Western Deccan : A study in chronology and development 3rd century B.C. to 4th century A.D. Karnataka University.

2. Ramaswamy Iyanger, T.E. Resistance to British rule in Ganjam, 1766-1858. Berhampur University.

PANJAB UNIVERSITY
CHANDIGARH

(Advertisement No. 21/77)

Applications are invited for the following posts so as to reach the Registrar, Panjab University, Chandigarh by **30.9.1977** along with postal orders of Rs 7.50 each for posts at Sr. Nos. 1 to 5 and Rs. 5/- for post at Sr. No. 6. Number of post/s is/are indicated with the subject. Qualifications essential and desirable be pursued carefully.

1. Reader in Sanskrit at V.V.B.I.S. & I.S. Hoshiarpur (1)

2. Reader in Library Science, P.U. Library, Chandigarh (1)

(Pay scale: Rs. 1200-50-1300-60-1900).

Qualifications

Essential

(a) A first or high second class Master's degree of an Indian University or an equivalent qualification of a foreign University in the relevant subject with bright academic record.

(b) Either a research degree of doctoral standard or published research work of high standard in the subject concerned in journals of repute.

Experience

About five years' experience of teaching postgraduate classes at University or College level and experience of guiding research

Desirable for the post of Reader in Sanskrit

(a) Specialisation in Indian Epigraphy.

(b) Either a research degree of doctoral standard in Sanskrit/Ancient Indian History/Epigraphy or equivalent research publications of high standard.

3. Lecturer in Library Science, P.U. Library, Chandigarh (1)

(Pay scale: Rs. 700-40-1100-50-1600).

Qualifications

Essential

(a) A doctor's degree of research work of an equally high standard; and

(b) Consistently good academic record with Ist or high 2nd class (B in seven point scale) Master's degree in the subject of Library Science or an equivalent degree of foreign University.

Having regard to the need for developing Inter-disciplinary programmes the degree in (a) and (b) above may be in relevant subject.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of a very high standard, it may relax any of the qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable a person possessing a consistently good academic record (weightage being given to M.Phil or equivalent degree or research work of quality) may be appointed provided he has done research work for at least two years or has practical experience in a research Laboratory/organisation on the condition that he will have to obtain a Doctor's degree or give evidence of research work of equivalent high standard within five years of his appointment failing which he will not be able to earn future increments until he fulfils these requirements.

Explanations

1. Candidates for being eligible for recruitment to the posts of Lecturers must have a Ist or high second class (B in the seven point scale) at the Master's level and for determining consistently good record, average of 50-55% or (B in the seven point scale) may be expected at the two examinations prior to the Master's examinations.

The following two examples would illustrate the above

(i) A candidate who has obtained 52% marks at the Higher Secondary/Pre-University/Intermediate and 58% at the Degree level would have an average of 55% and as such could be considered.

(ii) A candidate who has obtained 60% at Higher Secondary/Pre-University/Intermediate and 50% at the Degree level would have an average of 55% and as such could be considered.

4. Deputy Librarian, P.U. Library, Chandigarh (1)

(Pay scale: Rs. 700-50-1200).

Qualifications

Essential

(a) M. Lib. Science Ist/2nd class plus Ist/2nd class M.A./M.Sc./M.Com degree.

(b) At least seven years' experience of working in an academic library in some responsible capacity.

Desirable

Doctoral degree in Library Science or published research work in Journals of repute. Knowledge of Hindi and Punjabi.

5. First Library Assistant at V.V.B.I.S. & I.S., Hoshiarpur (1)

(Pay scale: Rs 400-30-640 EB-40-800).

Qualifications

Essential

M.A. in Sanskrit plus B. Lib. Science/Diploma in Library Science IInd class with at least 5 years' working experience in a University or Indological Institute Library.

Desirable

(a) Knowledge of one or more Indian languages besides Sanskrit and Hindi.

(b) Knowledge of one or more foreign languages besides English.

6. Library Assistant (4)

(Pay scale: Rs. 300-25-600)

Qualifications

Essential

M. Lib. Science Ist/2nd class plus B Lib. Science/post-graduate Diploma in Library Science Ist/2nd class.

OR

M.A./M Sc./M.Com Ist/2nd class plus B.Lib. Science/post-graduate Diploma in Library Science Ist/2nd class and five year's experience of working in a library.

Library Assistant at VVBIS & IS, Hoshiarpur

Qualifications

Essential

M.A. in Sanskrit Ist/2nd class plus B.Lib. Science/post-graduate diploma in Library Science Ist/2nd class and five years' experience of working in library.

Desirable

Knowledge of Xerox and other reprographical methods.

Candidates for the post of Reader who do not possess a Doctoral degree are required to submit 10 typed/cyclostyled copies of brief resume of their research/published work. 15% posts of Lecturers will be reserved for the members of the Scheduled Castes and 2% for the members of the Scheduled Tribes, but these will be filled up by others if no suitable Scheduled Castes/Scheduled Tribes applicant is available.

Persons already in service should route their applications through proper channel. Incomplete forms and those received after the due date will not be entertained. Serving employees, may however, send their applications on the prescribed proforma direct to the University. They may route another copy through their Departments. They will be allowed to present themselves for interview only on the production of a 'No Objection Certificate' from their employers. Canvassing in any form will disqualify a candidate.

Application forms can be obtained from the office of the Finance and Development Officer, Panjab University, Chandigarh, by making a written request accompanied with self-addressed stamped envelope of 23 × 10 cms.

ALIGARH MUSLIM UNIVERSITY

Advertisement No. 16/77-78

Applications, on the prescribed form, are invited for the following posts :

Candidates must possess a medical qualifications included in the first or second schedule or Part II of the third schedule (other that licentiate qualifications) of the Indian Medical Council Act, 1956. Holders of the educational qualifications included in Part II of the third schedule should fulfil the conditions stipulated in Section 13 (3) of the Indian Medical Council Act, 1956. Must possess a basic University or equivalent qualification entered in schedules under State/Central Medical Registration Act. (For the posts at Sl. Nos. 1 & 2 only).

1. **Professor of Orthopaedics Surgery (Temporary). Scale Rs. 1500-60-1800-100-2000-125/2-2500 plus allowances.**

Qualifications

M.S. (Orthopaedics), M.Ch. (Orthopaedics), Speciality Board of Orthopaedics Surgery (USA). As Associate Professor/Reader in Orthopaedics for five years in a Medical College.

2. **Reader in Occular Biochemistry, Department of Ophthalmology. Scale Rs. 1200-50-1300-60-1900 plus allowances.**

Qualifications

M.D. (Biochemistry). M.Sc. (Biochemistry), Ph. D. (Biochemistry). D.Sc. (Biochemistry).

Experience

As Assistant Professor/Lecturer in Biochemistry for three years in Medical College.

Desirable

Ph. D. guidance and research work in Occular Biochemistry.

3. **Professor of Sociology. Scale Rs. 1500-60-1800-100-2000-125/2-2500 plus allowances.**

Qualifications

(a) A first or a high second class Master's Degree in Sociology of an Indian University or an equivalent foreign qualification; (b) A research degree of a doctorate standard or published work of a high standard; and (c) Atleast ten years experience of teaching postgraduate classes and guiding research.

4. **Reader in History (European History), Department of History—Plan post. Scale Rs. 1200-50-1300-60-1900 plus allowances .**

Qualifications

(a) A first or a high second class Master's Degree in the subject concerned of an Indian University or an equivalent foreign qualification; (b) A research degree of a doctorate standard or published work of a high standard; and (c) Atleast five years experience of teaching postgraduate classes and some experience of guiding research.

Desirable

Knowledge of French/German.

Note : The requirement of a minimum period of experience of teaching postgraduate classes may be relaxed in cases of exceptional academic qualifications.

Prescribed application forms and instructions may be had from the Deputy Registrar (Executive) either personally or by sending a self-addressed envelope of 23×10cm. Last date for receipt of applications is **12th September, 1977.** Incomplete applications and those received late may not be considered.

Higher initial start may be given to candidates possessing exceptional qualifications and experience. Candidates interviewed may be paid contribution towards their T.A. to equal to one single second class railway fare only.

Jamalur Rahman
REGISTRAR

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ALIGARH MUSLIM UNIVERSITY

Advertisement No 18/77/78

Applications, on the prescribed form, are invited for the post of Principal, Jawaharlal Nehru Medical College.

Scale

Rs 1500-60-1800-100-200-125/2-2500 plus allowances as admissible under rules and not-practising allowances provided he is also Professor of the subject of his specialisation with clinical duties attached to it.

Candidates must possess a Medical qualification included in the first or second schedule or Part II of the third schedule (other than licentiate qualifications) of the Indian Medical Council Act, 1956. Holders of educational qualifications included in Part II of the third schedule should fulfil the conditions stipulated in Section 13 (3) of the Indian Medical Council Act, 1956. Must possess a basic University or equivalent qualification entered in schedules under State/Central Medical Registration Act.

Qualifications

M.D./M.S./M.R.C.P./F.R.C.P./F.R.C.S. or an equivalent qualification in any branch of Medical Science. Atleast five years experience as Professor in a Medical College.

Preference will be given to those who have long experience as Professor/Head of a Department or Principal of a Medical College particularly those who have held responsible position connected with the establishment of a teaching hospital.

The Principal of the College will also have to work as the Chief Superintendent of the Medical College Hospital.

Prescribed application forms and instructions may be had from the Deputy Registrar (Executive) either personally or by sending a self addressed envelope of 23x10 cm. Last date for receipt of applications is **12th September, 1977**. Incomplete applications and those received late may not be considered.

Higher initial start may be given to candidates possessing exceptional qualifications and experience. Candidates interviewed may be paid contribution towards their T.A. equal to one single second class railway fare only.

Jamalur Rahman
REGISTRAR

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ALIGARH MUSLIM UNIVERSITY

Advertisement No. 19/77-78

Applications, on the prescribed form, are invited for the following posts :

Candidates must possess Medical qualifications included in first or second schedule or Part II of the third schedule (other than licentiate qualifications) of the Indian Medical Council Act, 1956. Holders of educational qualifications included in Part II of third schedule should fulfil the conditions stipulated in Section 13(3) of the Indian Medical Council Act, 1956. Must possess a basic University or equivalent qualification entered in schedules under State/Central Medical Registration Act (for the posts at Sl. Nos. one and two only).

1. **Professor of Medicine. Scale Rs. 1500-60-1800-100-2000-125/2-2500 plus allowances.**

Qualifications

M.D. (Medicine), M.D. (General Medicine), M R.C.P., Speciality Board of Internal Medicine (USA).

Experience as Associate Professor/Reader in General Medicine for five years in a Medical College.

2. **Readers in Medicine. Scale Rs. 1200-50-1300-60-1900 plus allowances.**

Qualifications

M.D. (Medicine), M.D. General Medicine), M.R.C.P., Speciality Board of Internal Medicine (USA).

As Assistant Professor/Lecturer in General Medicine for three years in a Medical College.

3. **Lecturer in Islamic Studies (Temporary but likely to become permanent). Scale Rs. 700-40-1100-50-1600 plus allowances.**

Qualifications

(a) A Doctor's Degree or research work of an equally high standard; and (b) Consistently good academic record with first or high second class (B in the seven point scale) Master's Degree of an Indian University or an equivalent foreign qualification in Islamic Studies, Islamic Culture Islamic History and Culture, Arabic, Persian or Economics, Political Science or Sociology with special knowledge of Muslim Contribution in these fields.

Having regard to the need for developing interdisciplinary programmes, the degrees in (a) and (b) above may be in relevant subjects.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of the qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's Degree or equivalent research work is not available or is not considered suitable, a person possessing a consistently good academic record (weightage being given to M.Phil. or equivalent degree or research work of quality) may be appointed provided he has done research work for atleast two years or has practical experience in a research laboratory/organisation on the condition that he will have to obtain a Doctor's Degree or give evidence of research work of equivalent high standard within five years of his appointment, failing which he will not be able to earn future increments until he fulfils these requirements.

Prescribed application forms and instructions may be had from the Deputy Registrar (Executive) either personally or by sending a self addressed envelope of 23× 10 cm. Last date for receipt of applications is **17th September, 1977.** Incomplete applications and those received late may not be considered.

Higher initial start may be given to candidates possessing exceptional qualifications and experience. Candidates interviewed may be paid contribution towards their T.A. equal to one single second class railway fore only.

Jamalur Rahman
REGISTRAR

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MARATHWADA UNIVERSITY
No. ESTT/DEPT/ADVT. 50

Applications are invited for the following Posts in the University Departments so as to reach the undersigned on or before **September 26, 1977.**

1. Professor of History (one)
   Rs. 1100-50-1300-60-1600
2. Professor of Commerce (one)
   Rs. 1100-50-1300-60-1600
3. Reader in Econometrics/Mathematical Economics (One)
   Rs. 700-50-1250
4. *Reader in Economics (One)
   Rs. 700-50-1250
5. Reader in Political Science (One)
   Rs. 700-50-1250
6. *Reader in Sociology (One)
   Rs. 700-50-1250
7. *Reader in Botany (One)
   Rs. 700-50-1250
8. *a) Reader in Physics (One)
   Rs. 700-50-1250
   (b) Reader in Physics (Two)
   Rs. 700-50-1250
9. Reader in Bio-Chemistry (One)
   Rs. 700-50-1250
10. *Lecturer in Hindi (One)
    Rs. 400-40-800-50-950
11. Lecturer in German (One)
    Rs. 400-40 800.50-950
12. Lecturer in Chinese (One)
    Rs. 400-40-800-50-950
13. *Lecturer in Russian (One)
    Rs. 400-40-800-50.950
14. *Lecturer in History (Two)
    Rs. 400-40-800-50-950
15. *Lecturer in Political Science (One)
    Rs. 400-40-800-50-950
16. Lecturer in Sociology (Social Work) (One)
    Rs. 400-40-800-50-950
17. *Lecturer in Organic Chemistry (One)
    Rs. 400-40-800-50-950
18. *Lecturer in Inorganic Chemistry (One)
    Rs. 400-40-800-50-950
19. *Lecturer in Physics (One)
    Rs. 400-40-800-50-950
20. Lecturer in Botany (One)
    Rs. 400-40-800-50.950
21. *Lecturer in Mathematics (One)
    Rs. 400-40-800-50-950
22. Lecturer in Zoology (One)
    Rs. 400-40-800-50-950

The scales of pay carry with them the benefits of D.A. in accordance with the rules of the University. The scales of pay are likely to be revised. Out of the posts of Readers and Lecturers mentioned in the advertisement, 34% posts are reserved for candidates belonging to S.C.,S,T., D.N.T./N.T. and O.B.C

GENERAL QUALIFICATIONS

1. **Professor**

At least a Second Class Master's Degree in the subject. A research degree of an Indian or Foreign University of a Doctorate standard and/or published research work of an acknowledged merit.

Ten year's total teaching experience in the subject in the University or College including about five years experience of teaching Post-Graduate classes. In addition, a person should possess experience of undertaking and guiding research in the subject.

2. **Reader**

At least a Second Class Master's Degree in the subject. A rasearch Degree of an Indian or Foreign University of a Doctorate standard and/or published research work of an acknowledged merit, in the subject.

Seven year's teaching experience in the University or College, preferably wholly at Post-Graduate level, research experience and ability to undertake and guide research in the subject will be considered a desirable qualification.

3. **Lecturer**

At least a Second Class Master's Degree in the subject from a recognised University. A Research degree of a doctorate standard or published research work of acknowledged merit in the subject.

Five year's teaching experience to degree and/or post-graduate classes.

Lecturer in Russian and German

At least a Second Class Master's degree in the concerned language from an Indian University or an equivalent degree from foreign University.

Lecturer in Chinese

At least a Second Class Master's Degree in any subject and Diploma in Chinese language.

Teaching experience in the case of foreign language lecturers can be relaxed.

SPECIAL QUALIFICATIONS

1. **Professor of History**
   Modern History or Ancient Indian History and Culture or Scholar of Eminence in any field of History.
2. **Professor of Commerce**
   Financial Management
3. **Reader in Econometrics, Mathematical Economics**
   A research degree of Doctorate standard in the subject of Econometrics/Mathematical/Economics and/or published original Research work of acknowledgeed merit in the subject. Five years professonal experience.
4. **Reader in Economics**
   Industrial Economics or Labour Economics or Area Development and Regional Planning.
5. **Reader in Political Science**
   Modern Government
6. **Reader in Socology**
   Sociology of Deviation or Industrial Sociology or Modernisation.
7. **Reader in Botany**
   Angiosperms and Plant Taxonomy.
8. **Reader in Physics**
   1. Spectroscopy
   2. Nuclear Physics or Particle Physics or Cosmic rays (Theoretical preferred).
   3. Solid State Physics.
9. **Reader in Bio-Chemistry**
   Research work in at least one of the following fields of specialisation.
   1. Clinical Bio-Chemistry,
   2. Enzyme Chemistry,
   3. Amino acid metabolism,
   4. Drug Metabolism and Biochemical Pharmacology,
   5. Carbohydrate Chemistry.
10. **Lecturer in Hindi**
    A Scholar from any branch,
11. **to 13. Lecturer in Russian/Chinese/German**
    Advanced training in the country concerned and experience in teaching and/or translation will be desirable.
14. **Lecturer in History**
    1. Archaeplogy,
    2. Ancient Indian History and Culture.
15. **Lecturer in Political Science**
    Field of Government and Politics
16. **Lecturer in Sociology**
    Social Work.
17. **Lecturer in Chemistry**
    Organic Chemistry.
18. **Lecturer in Chemistry**
    Inorganic Chemistry.
19. **Lecturer in Physics**
    Solid State Physics.
20. **Lecturer in Botany**
    Floral Anatomy and Morphology or Ecology or Physiology.
21. **Lecturer in Mathematics**
    Complex Analysis or Topology (General or Algebric) or Number Theory or Continuum Mechanics or Fluid Dynamics or Elasticity.
22. **Lecturer in Zoology**
    Protozoology

Candidates applying for the post of Professor and Reader should ordinarily be below the age of 45 years, and those applying for he post of Lecturer should ordinarily be below the age of 35 years. The age limit can be relaxed in the case of deserving candidates.

The teachers appointed by the University will be required to pass a test in Marathi before their confirmation in the respective posts.

Eight copies of applications together with eight copies of each of the testimonials, if any, separately for each post giving particulars in the prescribed form along with a Postal Order of Rs. 3/ (towards the cost of the form) should be sent to the Registrar so as to reach him not later than **September 26, 1977.** Testimonials should be attested by a Principal of College or a member of the Senate of Marathwada University or by Gazetted Officer. The prescribed application forms will be supplied to the candidates on request accompanied by a self addressed envelope (23x10 c.m.) bearing postal stamps worth Re. 1/- for the postage separately for each post.

Candidates, who are employed at present, must submit their applications through their employers.

The University authorities will have the right to relax any one of the condition in the case of extra-ordinary candidates.

Canvassing, direct or indirect will be disqualification.

University Campus **V.K. Dhamankar**
Aurangabad. REGISTRAR

**Temporary but likely to be made permanent.*

THE UNIVERSITY OF BURDWAN
WEST BENGAL

Advertisement No. 6 **Dated 12.8.77**

Applications in prescribed form are invited for the following posts on U.G.C.'s pay scales with admissible allowances and Contributory Provident Fund benefits.

(A) Department of Commerce—Reader—One.
(B) Department of History—(i) Reader—One; (ii) Lecturer—One.
(C) Department of Economics—Lecturer—Two.

Posts under (A) & (B) are permanent. One post under (C) is permanent, the other temporary against Study Leave vacancy.

Minimum Qualification

(a) Doctorate degree or Published work of an equally high standard;
and
(b) Consistently good academic record with 1st or high 2nd class (B+) Master's Degree in the subject or an equivalent degree of a Foreign University.

Additional requirements for Readership

(i) At least five years' teaching experience in postgraduate class, (ii) ability to Supervise Research work, (iii) Publication of sufficient merit.

Desirable in all cases

Doctorate degree in any of the fields of specialisation stated below; Research publications of high order.

Specialisations required

For (A) Postgraduate qualification in Management from any recognised University or Institute of Management with specialization in Organisational Behaviour/Industrial Psychology/Labour & Industrial Relations/Man Power Planning and Management of Human Resources/Labour Laws/Labour Economics.

For (B) (i) Mediaeval Indian History and for (B) (ii) Modern History.

For (C) Statistics & Econometrics/International Trade/Agricultural Economics.

For application form and other particulars, please write to the office of the undersigned with a self address and stamped (40 p.) envelope (10" x 5").

Last date of receiving applications with requisite fee of Rs. 5/- (payable by crossed I.P.O. drawn in favour of Finance Officer, of the University) is **24.9.77.**

A.K. Banerji
REGISTRAR

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MARATHWADA UNIVERSITY

No. Estt/Dept./Advt./50

Applications are invited for the following posts:

Professors (Pay-scale Rs 1100-50-1300-60-1600) of History, Commerce **one each.**

Readers

(Pay scale Rs 700-50-1250) in Econometrics/Mathematical Economics, Economics (Temporary), Political Science, Sociology, Botany and Bio-Chemistry, **one each** and Reader in Physics—Three.

Lecturers

(Pay scale Rs 400-40-800-50-950) in Hindi, German, Chinese, Russian, Political Science, Sociology (Social Work), Organic Chemistry, Inorganic Chemistry, Physics, Botany-and Mathematics—**one each** and Lecturer in History—Two.

The scales of pay carry with them the benefits of Dearness Allowance in accordance with the rules of the University and the same are likely to be revised. Out of the posts of Readers, and Lecturers mentioned in this advertisement, 34% posts are reserved for candidates belonging to Scheduled Castes, Scheduled Tribes, Denotified Tribes & Nomedic tribes and other Backward classes.

General Qualifications

1. Professor

At least a Second Class Master's Degree in the subject. A research degree for an Indian or Foreign University of a Doctorate standard and/or published research work of an acknowledged merit.

Ten years' teaching experience in the subject in the University or college, including about five years' experience of teaching post-graduate classes. In addition, a person should possess experience of undertaking and guiding research in the subject.

2. Reader

At least a Second Class Master's Degree in the subject. A research degree of an Indian or foreign University of a Doctorate standard and/or published research work of acknowledged merit in the subject.

Seven years' teaching experience in the University or college, preferably wholly at post-graduate level, research experience and ability to undertake and guide research in the subject will be considered a desirable qualification.

3. Lecturer

At least a Second Class Master's Degree in the subject from a recognised University. A Research degree of a doctorate standard or published research work of acknowledged merit in the subject.

Five years' teaching experience to degree and/or post-graduate classes.

Lecturer in Russian and German

At least a Second Class Master's Degree in the concerned language from an Indian University or an equivalent degree from foreign University.

Lecturer in Chinese

At least a Second Class Master's Degree in any subject and Diploma in Chinese language.

Teaching experience in the case of foreign language lecturers can be relaxed.

In addition to general qualifications, special qualifications given are in the detailed advertisement, which can be obtained along with the application forms.

Candidates applying for the posts of Professors and Readers could ordinarily be below the age of 45 years and those applying for the posts of Lecturers should ordinarily be below the age of 35 years. The age limit can be relaxed in the cases of deserving candidates.

The teachers appointed by the University will be required to pass a test in Marathi before their confirmation in the respective posts.

Eight copies of application together with eight copies of each of the testimonials, if any, separately for each post giving particulars in the prescribed form along with a postal order of Rs.3/- (towards the cost of the form) should be sent to the Registrar so as to reach him not later than **September 26, 1977.** The prescribed application forms will be supplied to the candidates on request accompanied by a self addressed envelope (23×10 cms.) bearing postal stamps worth Re. 1/- for the postage separately for each post.

Candidates who are employed at present, must submit their applications through their employers.

The University authorities will have the right to relax one of the conditions in the case of extraordinary candidates.

Canvassing, direct or indirect will be disqualification.

V.K. Dhamankar
REGISTRAR

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UNIVERSITY OF INDORE

University House
Indore-452001 (M.P.)

No. Estt./III(13)/77 **16th August, '77**

Advertisement

Applications on the prescribed form obtainable from the University office on payment of Rs. 3/- (in the shape of crossed Indian Postal Order) are invited for two posts of Reader in the University Teaching Department of Education in the scale of pay of Rs. 1100-50-1600/-.

2. Qualifications

(a) A first or second class Master's degree of an Indian University or an equivalent qualifications of a foreign University in the subject concerned.

(b) Either a degree of the doctorate standard or published research work of high standard.

(c) Not less than 5 years experience of postgraduate teaching and three years experience of guiding research. Working knowledge of Hindi shall be a desirable qualification.

3. The above scale carry with it D.A. and C.P.F. benefits as per University rules. A higher start can be given to deserving candidates.

4. Preference will be given to Scheduled castes and Scheduled Tribe candidates if found suitable. Candidates already in service should apply through proper channel.

5. Applications (8 copies) duly filled-in and accompanied with crossed Indian Postal Order of Rs. 10/- should reach the undersigned on or before **30th September, 1977**, the envelope being superscribed as "APPLICATION FOR READER IN EDUCATION".

6. The University reserves the right to fill-up or not to fill-up the post and/or to call only selected candidates for interview at their own cost.

REGISTRAR

UNIVERSITY NEWS, SEPTEMBER 1, 1977. Regd. No. R. N. 7180/63 Postal No. D. (C) 534

In modification of the advertisement already published in August 16, 1977 issue of the Journal, the following advertisement is issued.

NAGARJUNA UNIVERSITY
NAGARJUNANAGAR

NU/Estt/77-78 **Dt. 18-8-1977**

Applications in prescribed forms are invited so as to reach the Registrar on or before **19th September**, 1977 for the following posts in the Nagarjuna University. Each application must be accompanied by a crossed Indian Postal Order or a Demand Draft for Rs. 10/- in favour of the Registrar, Nagarjuna University, Nagarjunanagar 522 510 (A.P.)

Subject	Professors	Readers	Lecturers
1. Economics	—	2	1
2. Mathematics	—	2	1
3. English	—	1	1
4. Commerce	—	2	2
5. Archaeology	—	1	1
6. Telugu	—	2	2
7. Physics	—	—	1
8. Chemistry	—	1	—
9. Botany	—	1	—
10. Zoology	1	1	—

Other Posts

(1) Deputy Librarian	1
(2) Physical Director	1
(3) Controller of Examinations	1
(4) Assistant Registrars	2

Scales of Pay

Professor: Rs 1,500-60 1,800-100-2,000

Assessment $\frac{125}{2}$ —2,500

Reader : Rs. 1,200-50-1,300-60-1,900
Lecturer : Rs 700-40-1,100-50-1,600
Deputy Librarian : Rs 700-50-1,250
Physical Director: Rs. 400-40-800-50-950
Controller of Examinations: Rs 700-50-1.250.
Assistant Registrar: Rs 400-40-800-50-950

Qualifications

(a) **Professors & Readers**

Essential

(1) A first or high second class Master's Degree of an Indian University or an equivalent qualification from a foreign University in the subject.

(2) A research Degree of Doctorate standard or published work of a high standard in the subject.

(3) Experience of teaching Honours or postgraduate classes for a period of ten years for Professors/five years for Readers, and experience of guiding research for both the posts.

Desirable

The following specialisations are desirable.

(1) Economics

Mathematical Economics for one Reader's post.

(2) Mathematics

(1) Functional Analysis for one Reader's post.

(2) Complex Analysis or Algebraic Geometry for the other.

(3) English

British Literatuee or Indian Writing in English or Commonwealth Literature or Literay Criticism for Reader's post.

(4) Commerce

(1) Personnel Management and Industrial Relations for one Reader's post,

(2) Either advanced Banking and Monetary Policy or Industrial Economics for the other Reader's post.

(5) Archaeology

Indian Art and Architecture with special reference to Buddhism for Reader's post.

(6) Telugu

(1) Grammatical Theories for one Reader's post.

(2) Linguistics for another Reader's post.

(7) Chemistry

Inorganic or Physical or Physical Organic Chemistry.

(8) Botany

Developmental Morphology.

(9) Zoology

Limnology for the Professor's post. Physiology/Fisheries/Limnology/Cytology for Reader's post.

(b) Lecturers

Essentials

(1) At least a first or high second class Master's Degree of an Indian University or an equivalent qualification of a foreign University.

(2) A research degree or a good record of research work.

Desirable

1. Telugu

(1) M.A. (Sanskrit)/Siromani/Vidya Praveena/Basha Praveena.

(2) M.A. (Telugu) I or II class of a recognised University.

(3) Ph.D. in Telugu is preferable.

2. Archaeology

Specialisation in Epigraphy or Numismatics or environmental Archaeology. M.Phil or Ph.D. degree or evidence of published work and a certificate of proficiency in field work.

(c) Deputy Librarian

(a) First or Second class M.A./M.Sc./M.Com. and a first or second class B Lib. Science or Diploma in Library Science. The Degree of M.Lib. Science being a preferential qualification.

(b) At least 7 years experience as Librarian or in a responsible professional capacity in a Library.

(c) Good academic qualifications and research experience with publications.

(d) Physical Director

(a) A Master's degree in Physical Education or a Master's degree in Arts/Science etc. with a post-graduate diploma in Physical Education.
Preference will be given to a person holding Master's degree in Physical Education.

(b) At least 5 years experience of organising games and sports at University level. Proficiency in games upto inter-University and national level.

(e) Controller of Examinations

(1) First or Second class post-graduate degree of any University or its equivalent.

(2) Experience in an administrative capacity for a perod of 5 years or as Assistant Registrar Assistant Controller of Examinations or Finance for a period of 5 years.

(f) Assistant Registrars

(1) First or Second class post-graduate degree of any University or its equivalent.

(2) Experience in an administrative capacity for a period of 3 years or as an Office Superintendent for a period of 5 years.

Note

(1) Internal candidates if qualified are also eligible to apply for direct recruitment.

(2) Those who have applied earlier in response to the Advertisement No. NU/TS/76-77, dated 1-9-1976 need not apply. Any relevant additional information may, however, be furnished.

(3) Reservations to Scheduled Castes, Scheduled Tribes and Backward classes exist for the posts of Lecturers and non-teaching staff as per Government Rules.

Requisitions for the prescribed application forms may be made to the Registrar, Nagarjuna University, Nagarjunanagar accompanied by a self-addressed and a stamped-envelope, and a Demand Draft or crossed Indian Postal Order for one rupee in favour of the Registrar, Nagarjuna University, Nagarjunanagar Pin 522 510 (A.P.).

The University reserves the right to fill or not to fill any or all of the above posts.

Kilaru Srimannarayana
REGISTRAR

Printed & Published by ANJNI KUMAR, on behalf of the Association of Indian Universities

University News

A CHRONICLE OF HIGHER EDUCATION & RESEARCH SEPTEMBER 16, 1977 80 PAISE

Shri Satish Agarwal, Union Minister of State for Finance, delivering the valedictory address of the third training programme in Financial Management for finance officers of Indian Universities at the National Staff College, Delhi.

CLASSIFIED ADVERTISEMENTS

SRI VENKATESWARA UNIVERSITY

Applications are invited in the prescribed form for the following posts in the University Service on or before 3-10-1977:

S.No.	Post and Department	No. of Posts	Specialisation
I.	**S.V.U. College of Sciences**		
1.	Lecturer in Botany	One (Ty.)	
2.	Lecturers in Chemistry	Three (1 Ty.)	
3.	Lecturers in Home Science	Two (Ty.)	Foods and Nutrition/ Home Science Education and Extension
4.	Lecturer in Mathematics	One	
5.	Lecturers in Physics	Two (Ty.)	
6.	Lecturers in Psychology	Three (2 Ty.)	
7.	Lecturers in Statistics	Two (1 Ty.)	
II.	**S.V.U. College of Arts : Commerce : and Law:**		
8.	Professor in Sociology	One	
9.	Reader in Commerce	One	
10.	Reader in Population Studies	One	Statistical Methods in Demographic Analysis & Census material.
11.	Lecturer in Sanskrit	One	Pali/Prakrit
12.	Lecturer in Urdu	One	(Preference:Degree/ Diploma in Arabic/ Persian)
13.	Lecturer in Commerce	One (Ty.)	
14.	Lecturer in English	Three (2 Ty.)	
15.	Lecturer in Law	One (Ty.)	Constitutional Law/ International Law.
16.	Lecturer in Philosophy	One	(Philosophy of Science)
17.	Lecturer in Sociology	One	
18.	Lecturer in Tamil	One	
19.	Lecturers in Telugu	Two (1 Ty.)	
20.	Lecturers in Economics	Two (1 Ty.)	
21.	Lecturer in Education	One (Ty.)	
III.	**S.V.U. College of Engineering**		
22.	Lecturer in Elec. Engg.	One (Ty.)	
23.	Lecturer in Mathematics	One (Ty.)	
24.	Lecturer in Chemistry	One (Ty.)	

SCALES OF PAY

(i) Professor : Rs. 1500-60-1800-100-2000-Assessment-125/2-2500.
(ii) Reader : Rs. 1200-50-1300-60-1900.
(iii) Lecturer : Rs. 700-40-1100-50-1600.

All the above posts carry D.A. etc., at the University rates.

There will be reservations for S.C./S.T./B.C. candidates according to U.G.C./State Government guidelines for Lecturers.

Prescribed application forms, particulars of qualifications, etc., can be had from the Registrar, Sri Venkateswara University, Tirupati on payment of Rs. 5/- either by Andhra Bank Challan/State Bank of India Challan or by Crossed Indian Postal Order, drawn in favour of the Registrar, payable at the S.V.U. Campus Post Office, Tirupati-517 502.

Money Orders and cheques are not acceptable.

Note : Those who have applied earlier in response to our advertisement dated 22-3 1977 need not apply again

M.J. Kesava Murthy
REGISTRAR

* * *

ASSOCIATION OF INDIAN UNIVERSITIES, ROUSE AVENUE NEW DELHI-110002

Applications are invited in the prescribed form obtainable from the Secretary on payment of Rs. 2/- for the post of Research Assistant in the pay-scale of Rs. 500-40-900 plus usual allowances. The post is sanctioned for a project likely to last one year. Qualifications : A good master's degree in Economics, preferably with some experience.

Preference will be given to scheduled caste/tribe candidates. Applications should reach the Secretary by **September 27, 1977**.

MADURAI UNIVERSITY

No. 5/Advt./77/V

Applications in the prescribed form are invited in the University School of Biological Sciences for the posts undermentioned:

One Reader each in Immunobiology, Bio-Chemistry, Plant Physiology, Microbiology and Environmental Biology.

One Lecturer each in Animal Physiology, Botany, Molecular Biology, Plant Ecology, Plant Physiology and Genetics.

Scale of pay

Reader Rs. 700-50-1250
Lecturer Rs. 400-40-800-50-950

(The UGC Scales of pay will be given on approval by the Government shortly)

Higher starting salary will be offered in deserving cases.

Preference would be given to Scheduled Caste/Scheduled Tribe candidates who are considered fit in respect of posts of Lecturers.

Those who do not possess at least 50% of marks in their Post Graduate Course and those who have already responded to the previous notification need not apply again.

The applicants should possess high academic qualifications with experience of Research work and Post-Graduate teaching.

A minimum of **five years'** of teaching/Research experience for Readers and **three years'** of teaching/Research experience for Lecturers at the Post-Graduate level is essential.

The prescribed form of application and full details regarding qualifications, field of specialisation and experience required can be got from the undersigned on requisition accompanied by (1) a self addressed envelope with postage stamps to the value of 0.55 paise affixed thereon and (2) State Bank of India Challan for Rs. 5/- (Account No. 1) or Demand Draft for Rs. 5/- payable at Madurai drawn in favour of Registrar, Madurai University, Madurai-625 021.

The last date for receipt of applications is **30-9-1977**. Applications received after the due date will not be considered.

B. Murugan
REGISTRAR

UNIVERSITY OF COCHIN

No. Ad. A2. 66/75

Notification

The last date of receipt of completed applications in respect of all posts advertised vide the University Notification of even no. dated **8-8-1977** is extended to **30th September, 1977.**

M.P. Madhavan Nair
REGISTRAR

University Building,
Cochin Palace P.O.,
Tripunithura-682301.
Date 5-9-1977.

UNIVERSITY NEWS

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Editor : ANJNI KUMAR

Renaming the U. G. C. A Prelude to Adventure

V. V. John*

The review committee appointed by the government took three years to appraise the work of the University Grants Commission and has produced its report. There is reason to hope that action on its findings and recommendations will not be similarly unhurried. Public pronouncements on our higher education all stress the need for immediate and drastic reform. Since the UGC is potentially the most effective agency for ensuring such reform, we may look forward to the speed with which the commission will fit itself for its largely neglected but rightful tasks.

That the review committee has suggested a change in the name of the commission is a good sign. The new name suggested is: University Education Commission. More euphonious and handy would be to call it simply: Universities Commission. A more comprehensive name would be: Higher Education Commission. In any event, dropping the word 'grants' from the name of the commission is a matter for rejoicing, for the word has misled not only the public but even the commission's own members in regard to its legitimate role.

This should partly explain why the commission has so far behaved as though its chief function was the distribution of money. Take away the grants and the commission's occupation would be nearly gone. By and large, it would seem to have modelled itself on philanthropic foundations of the American pattern, which are admirable institutions in their way, but emphatically inadequate models for an agency charged with the central government's responsibility for the determination and coordination of standards of higher education.

Grants from the UGC have made a difference to programmes of improvement in universities and some colleges. And if more money were available, more would obviously be accomplished. Where needs are so vast, as at all levels of our education, even a random selection of programmes for support would not be wrong policy; it may have the advantage of simplifying administrative procedures. Criticism of the commission's selective support of programmes and institutions is, in the present circumstances, pointless, because it is criticism of the inevitable. The thing that should worry us is that, to every report that the newspapers publish of the commission's programmes for the improvement of selected colleges or for the promotion of research in selected university departments, they publish a dozen or more reports of the total breakdown of the academic function in universities and colleges around the country. Does this worry the commission?

A major distortion in the functioning of the commission arises out of its being the Central government's agency for the complete funding of the seven Central universities. In respect of these universities, the commission performs the same functions as the department of education in a state does in regard to the state's universities with much less fuss. The high level deliberations of the UGC on the financial needs of the Central universities would be justified only on the presumption that these universities are being developed as pace-setters for the whole country. How many of the seven would seriously make this claim?

In regard to its more basic function, namely, of the determination and coordination of standards of higher education in the country, the

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*Former Vice-Chancellor, Jodhpur University.

(*Continued on page 489*)

Planning of Higher Education in India

S. N. M. Tripathi*

It is a truism that the present system of education has proved most unrewarding. It is admitted by all sections of society that the present system of education is not suited to the genius of the present generation of this country. It is modelled on the British system.

With the advent of independence and changes in the pattern of life, requirements, ideals and aspirations of the people, the British system has proved woefully inadequate and ruinous. It has created a tremendous amount of unemployment both among the educated and the uneducated. It has diverted young men from the villages to the cities; it has created a sense of non-seriousness among youth; it has planted high ambitions in the breast of young men without a corresponding desire to work to qualify for the high ambition they entertain; it has created a disdain for the values of life that had helped this country to occupy a high pedestal which commanded respect from the world; it has created a sense of indiscipline not in one class but in the nation as a whole.

One may be tempted to ask why the same system of education which produced Mahatma Gandhi, Lokmanya Tilak, Madan Mohan Malviya, Jawahar Lal Nehru and other stalwards in the country has failed to produce men of eminence, and why has it created so many problems.

There are many reasons, like the change from British administration to Indian administration, but the main reason is the removal of restrictions placed on the admission of students. Formerly admissions to educational institutions were selected. Now it is universal. This alone has contributed very greatly to the present state of affairs. Another reason is the great disparity in the condition of life enjoyed by students in the educational institutions and their home life. Boys who have spent a few years in educational institutions in the cities do not wish to go back to the life of a muddy village where there are no roads, no medical facilities and no adequate protection.

An educational system can be broadly divided into three parts: (a) contents of education, (b) the steps or methods adopted for imparting education and (c) administration.

Contents may again be divided into two parts: (i) subjects which are of permanent value or nature and (ii) subjects which need constant or periodical revisions. The first category covers subjects like Civics; History and subjects of moral values. They do not admit of much changes. The latter would cover subjects like Science, Geography, Economics and Politics in which due to new discoveries some of the older formulae are discarded or if not discarded then the discovery of new knowledge leads to changes in the curriculum.

There should be no changes in subjects which are of permanent values. But the first thing, the Communist regimes in other countries did was to change the history and introduce new ideas and concepts in place of teachings of moral values with a view to introduce and inculcate ideas which were based upon communist ideologies and were calculated to implant communist ideas in the minds of the impressionable young men. Their cry is that the contents and pattern of education must change with the changing times and must meet modern requirements. This idea has caught on and is now the cry of all those who are in power, who want to introduce ideas in the educational system which reflect their own views and which may strengthen their own regime.

The Government should have nothing to do with deciding what should be the contents of education. The curriculum must be left to educationists of repute. Our ancient system of education did not permit any interference in the contents of teachings by the estate. The rule that those who pay for the piper must call the tune, does not apply as it is the people's money which the Government only distributes. It is the tax-payer's money which is paid to educational institutions, and if money determines the right to decide the contents of education, the tax-payer alone has that right.

But here again we must guard against the assumption that everyone connected with the job of teaching is an educationist. Nothing would be further from the truth. Educationists should include only those learned scholars of repute who have wide and deep knowledge of a number of subjects, who may or may not have been connected with teaching but who have deeply pondered over the various problems of education, and the present day malaise, but who have no personal ambitions for elevation in life, or of any kind, and who are deeply imbued with desire to elevate mankind and have dedicated their lives to the service of humanity. Perhaps it would be difficult to find such men in numbers, but I am sure in this country it should be possible to find some even in these degenerate times. Any way what is important is to start with the acceptance of the idea that Governments must be completely divorced from the power to take or influence decisions about the contents of education and that it should be the sole preserve of imminent educationsts.

The manner in which education is imparted is of equal importance. The present system of imparting education is wholly unscientific and entirely unsuited to the students. A boy whose mental and

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**Former Vice-Chancellor of Varanaseya Sanskrit University.*

physical faculties are at a tender stage and not fully developed is saddled with a large number of subjects at the primary and secondary stages. A student of class VI has to study eight subects like Hindi, English, Maths, Science, Agriculture, Social Studies (History and Geography) Arts and Sanskrit. It is impossible for the underdeveloped mind to develop interests in and master these subjects. It is no wonder he develops a dislike for serious study and not only plays truant but tries to adopt questionable methods to pass from one class to another. He is not concerned with acquiring knowledge but is deeply concerned with possessing a certificate or degree which may be made marketable.

The boy at the primary and secondary stage should be taught only essential subjects with Language and Arithmetic—the two subjects which concerns everybody — and as his faculties develop he may be given the choice to add one or two more subjects which may interest him — and after every two years he may be given the option to add one more subject and also the option to drop any of the subjects previously taken up by him.

So far as administration is concerned the present system is basically wrong. The top men in educational institutions whether they be high schools, intermediate or degree colleges or universities, teachers are not only power conscious but also wisdom conscious. This colours the entire administration. In educational institutions the place of the teacher should be first, the students next in importance and the administrator should come last.

The most difficult part is to change the outlook and behaviour of the present day students. A beginning has to be made and even today the most recalcitrant student has regard and respect for a teacher with character, learning and devotion to his profession—and if this can happen with some teachers, I am sure the outlook and behaviour of a large number of students would change if all the teachers become men of character learning and professional integrity.

(Courtesy: The Pioneer)

Renaming the U.G.C.

(*Continued from page 487*)

commission's record is one of serious dereliction. The review committee is willing to ascribe this grave default to the UGC's lack of statutory power to enforce its decisions on the universities and to apply such sanctions as the derecognition of sub-standard degrees. It would be interesting to ascertain how long the UGC has been aware of, and has been chafing under, this legal handicap. Or did it have to wait until a review committee came along and opened its eyes? If the commission has had any experience of having failed to obtain compliance from the universities on matters relating to the raising of academic standards, this has not figured in its annual reports.

In recent years, the commission has stood aside and watched, no doubt with disapproving eyes, the mushrooming of ill-equipped and ill-provided universities and colleges all over the country. The state government could often have been rescued from populist pressures by the commission insisting on the right norms. Apart from legal sanctions, which may have been slow in coming since the lawmakers were themselves the transgressors, the commission, by making the norms widely known and defending them, could have helped to build up countervailing pressures of informed opinion to offset populist clamours.

In the earlier years, the commission used to demur with some effect, as when Orissa wanted universities in Sambalpur and Berhampur. But by 1974, when Uttar Pradesh announced the establishment of six new universities prior to the mid-term poll for the state assembly and proceeded ceremonially to lay corner-stones, which a newspaper described as foundations of electoral success, the commission would not utter a word of disapproval, despite its knowledge of the chronic indigence in which the existing state universities had been functioning.

About the same time was manifested another instance of the commission's inaptitude. This related to the new scales of pay for university and college teachers. The Minister's announcement in Parliament, made under certain political compulsions, was incomplete in several respects. But the UGC writing to the universities and state governments, could be expected to fill in the gaps and provide complete guidelines. Instead, what emerged were piecemeal offers, directives and extrapolations. A magnificent opportunity was missed for relating sensible grades of pay to sensible norms of accountability. What has been achieved is exemplified by Delhi University, where confusion prevails in regard to the minimum qualifications for a lecturer's position. If the UGC's writ does not run in Delhi, how would it fare elsewhere?

More dismaying still are reports, such as from Patna and elsewhere, of the closure of universities owing to the violent disruption of examinations and of the complete unreliability of many of the examinations actually held, where even vice-chancellors have descended to cooking up students' grades. The UGC's watchdog functions, inherent in the nature of the institution and now spelt out by the review committee should oblige it to investigate these aberrations and advise not only the President, whom the committee casts in the role of visitor to all the universities, but also the state governments on urgent steps to be taken to salvage standards of higher education.

The role that the review committee has spelt out for the UGC is not a revolutionary advance on its original concept, but it is a revolutionary advance on the way it is currently functioning. It may be a wrench to have to abandon the pleasant role of the rich and indulgent uncle to our institutions of higher education. The obligation to make hard decisions that may initially hurt and disturb the placid waters of academy need not however involve the writing-off of institutions or their extinction; on the contrary, it should enable the weaker institutions to awaken to a sense of unsuspected capabilities. It is no mere rhetoric to claim that every college has the potentiality to become a great college and every university a great university. The UGC's role is to insist on and assist in this transformation. Nothing less ambitious will do.

(Courtesy : Times of India)

University Education and Modernity Orientation

S. L. Sharma*

Education has come to occupy a paradoxical position in respect of its social role in developing nations. While some argue that existing education promotes modernization, others contend that it retards development. Be that as it may, the prevailing opinion in social science circles is that education is an agency of modernization.

An abundant literature has come up in the past few years documenting the impact of schooling on individual modernity in developing societies. Almost all such studies have invariably demonstrated a positive linkage between the level of education and modernity. But these studies have been preoccupied with the 'school effects', leaving the modernizing potential of higher education virtually unexamined. Although a few Indian studies have addressed themselves to the 'college effects', they have dealt with the subject in a casual manner. At any rate, systematic empirical evidence regarding the modernizing effects of higher education is generally lacking. This represents a serious gap in our knowledge. This study is sought to fill this gap.

The study focused mainly on the following research questions:

(i) Whether or not higher education promotes student modernity?

(ii) What is it about higher education that influences student modernity?

(iii) Which other factors, besides education, tend to affect student modernity and in what mix?

The study was designed to achieve the following objectives :

(i) to assess the modernizing effects of higher education, independent of other factors;

(ii) to determine the contribution of select components of higher eduction, such as course content, teacher factor, extracurricular activities and hostel context;

(iii) to ascertain relative and combined effects of some factors noted for their relevance for student modernity;

(iv) to devise a measure of psycho-social modernity for assaying attitudinal modernity in Indian setting.

Pursuant to the above ends, the following hypotheses were tested in this study:

(i) The level of education is positively related to the level of student modernity, that is, the higher the class the higher the modernity score.

(ii) Curricular differentiation affects variations in student modernity, viz., science students are likely to be more modern than students of humanities.

(iii) Teacher modernity is positively related to student modernity; that is, students tend to become just as modern as are their teachers.

(iv) The extent of participation in extracurricular activities is positively related to the level of student modernity which means that the greater the extent of extracurricular participation the higher the level of student modernity.

(v) Residence in hostel is positively related to student modernity, that is, hostelites are likely to be more modern than day scholars, and the longer the duration of stay in hostel the greater the modernity.

(vi) As regards other factors of student modernity, early socialization variables are likely to account for greater variance in student modernity than late socialization variables, and similarly developmental variables are expected to take precedence over structural variables.

The study followed a cross-sectional design. A universe of 3,437 students on the rolls of the day classes of 34 teaching departments of the Panjab University during the academic year 1973-74 comprised the sampling frame. Using pro-rata technique, a stratified random sample consisting of 50 units was drawn based on faculty (field of study) and level of education (undergraduation and postgraduation). The total number of usable completed interviews was 770 which corresponded to 22.1 per cent of the total population. Besides student sample, all the full-time teachers of the 34 departments of the campus constituted a supplementary study group. Of about 300 such teachers complete information could be obtained for 241.

Modernity, for the purpose of this study, was defined not in terms of appearance characteristics like mod dresses and mannerism, but in terms of a set of attitudes reflecting secular, rational, universalistic, achievement, independence and civic orientations.

The data were collected by means of a specially devised "Attitudinal Modernity Scale" and two interview schedules, one each for students and teachers. The scale was a factor weighted composite measure comprising six dimensions—secular, scientific, universalistic, achievement, independence and civic orientation—having a reliability coefficient of .64. The schedules included among other things several indexes pertaining to independent and intervening variables.

The principal independent variable of this study, i.e., higher education stood for post-higher secondary education and was operationalized in terms of five components: class, faculty, teacher, extracurricular activities and residence in hostel. The intervening variables comprised two sets: social structural and developmental. Included among the social structural variables were positional attributes like age, sex and family socio-economic status characteristics like father's education, occupation and income. Developmental variables included urban exposure, Chandigarh exposure, mass media exposure, contact with other cultures, and type of schooling, etc. Most of these variables were indexed in the student schedule.

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*Reader in Sociology, Panjab University. This is an abstract of an ICSSR funded project on "The Modernizing Effects of University Education on the Value Orientations of Students."

In order to examine the links between teacher and student modernity as measured by our Attitudinal Modernity Scale we focused on certain aspects of teacher-pupil relationship. The variables considered relevant for regulating teacher influence on students were indexed in teacher schedule. Particularly important among them were the indexes of teacher role preference, teacher authoritarianism, teacher outlook on maintaining distance from students, and teacher perception of interpersonal interaction with students.

Collected through structured interviews, the data were analyzed by means of non-parametric tests of association, analysis of variance, partial and multiple correlations. The Automatic Interaction Detection Programme was also used for data analysis. Wherever appropriate, parametric tests were also applied. In fact, parametric tests were used only to estimate the significance of association while non-parametric measures were used for assessing the significance of difference.

The principal hypothesis of positive association between level of education and student modernity failed to receive support from data. On the contrary, the initial evidence suggested a statistically significant, though weak, trend of negative associaton between level of education and modernity ($r_s = -.115$, $P < .05$), with undergraduates outscoring postgraduates ($Z = -3.42$, $P < .01$) and juniors leaving behind seniors ($X^2 = 13.67$, df 5, $P < .01$). Furthermore, the level of education also held inverse relationship with each of the six dimensions of modernity, implying thereby absence of substantial variations in its pattern of association with separate value components of modernity. Again, the level of education held inverse relationship with modernity in all the faculties except in the faculty of social sciences which evidenced a trend of positive association, though not statistically significant. Holding the faculty constant, the negative association between the level of education and modernity became more clearly evident ($F < .05$). Like the level of education, age also stood in a negative relation to modern modernity ($r = -.087$, $P < 01$). On controlling for age, the correlation coefficient for the level of education and modernity fell ($r = -.057$, $P < .05$) indicating thereby that part of the inverse relation between the level of education and modernity was a function of age factor. In short, while the percentages of 'modern' students declined with each successive class, it was not clear whether it was so because of their education. It was evident, nevertheless, that the level of higher education did not promote modernity.

Turning to faculty variations in student modernity, the results showed the lowest percentage of moderns in humanities, followed by social science and professional courses, the highest percentage being in the science faculty. The differences were statistically significant ($P < .001$). Furthermore, the analysis of paired faculty differences provided support to the hypothesis that science students are more modern than students of humanities ($Z = 2.81$, $P < .01$). However, holding the sex constant 'washed off' the original gross faculty differences with respect to modernity (Partial $X^2 = 29.97$, $df = 24$, $P > .05$). It also altered the picture of paired foculty differences in that while originally science students appeared more modern than students of other faculties, on controlling for sex, social science males turned out to be more modern than males in the science faculty (Kolmogorov Smirnov $X^2 = 4.64$, $P < .05$). Similarly, when socio-economic status was held constant, the initial gross faculty differences in regard to modernity disappeared (Partial $X^2 = 12.33$, $df = 24$, $P > .05$), and so did paired faculty differences also (Kolmogorov Smirnov X^2 not significant for every faculty pair). Which means that on controlling for socio-economic status faculty failed to differentiate between modernity level of students.

A third major hypothesis of the study postulated a positive relation between teacher modernity and student modernity. A comparison of the raw modernity scores of students and teachers revealed no significant difference ($P > .05$). Whatever little difference there was, it was only that average modernity score of student sample was the slightly higher than that of teacher group. A comparison at the department level, similarly, yield no evidence of correspondence between modernity ranks of students and teachers ($r_s = .019$, $P > .05$). It is only on comparing the average modernity scores of student fans of a teacher with the modernity score of their reference teacher that we found statistically significant, though not strong, evidence ($P < .01$, $C = .28$) of teacher influence on student modernity. This influence, in turn, depended on certain conditions of teacher role orientations. The results revealed a positive correspondence between modernity scores of students and their reference teachers generally in the cases in which teachers preferred character-building role over other roles ($P < .01$), scored low on authoritarian orientation ($P \leqslant .05$), favoured not social distance in their relations with students ($P < .01$) and reported greater interpersonal interaction with students ($P < .01$). Together, these patterns suggest that the reference teachers who gave evidence of "diffuse" role orientations tended to exert greater influence on students' perspectives than those who effered evidence of "specific" role orientation.

Concerning the modernizing effects of extracurricular involvement, the results revealed a significant and positive relation ($\lambda = .70$, $P < .01$) between active participation in extracurricular activities and high modernity score. So also the level or degree of participation was positively related to student modernity ($P < .05$). In terms of the relative effect of specific activities, participation in athletics and debates was significantly related to student modernity while involvement in cultural and leadership activities was not. As regards the hostel effects, the data provided no support to the hypothesis that hostelites tend to be more modern than day scholars ($P > .05$). Nevertheless, there was some evidence to suggest a significant, though weak, positive relation between years of hostel exposure and modernity scores ($\lambda=.19$, $P<.01$). Thus, even when hostelites were not more modern than day scholars, among the hostelites the oldtimers were more modern than juniors.

Proceeding to other factors of student modernity, it may first be noted that caste, family type, parental modernity and early residential background were not related to student modernity. Secondly, among the variables related to modernity significantly, though weakly, were age, socio-economic status of the family, and duration of urban dwelling. Of these variables, age was negatively related to modernity ($r=-.87$, $P<.01$). Among the family status variables, father's income alone was found to have a moderately strong ($c=.22$, $r=.111$) positive association with modernity. Regarding urban dwelling, those living in urban setting for a longer time were more modern than those with fewer years of urban dwelling ($P<.01$). Thirdly, the variables strongly related to modernity included sex, schooling background, mass media exposure, and contact with other cultures. Sex-wise, males were more modern than females ($P<.01$); in respect of schooling those with background of convent/public schooling were more modern than those educated in Government/private schools ($P>.001$). Concerning media exposure, the results indicated that the greater the exposure to mass media, the higher the modernity score ($\lambda=.32$). Similarly, the extent of exposure to other cultures was positively related to the level of modernity ($\lambda=.45$).

When we controlled for some of these variables in order to see more clearly the relation between the level of education and student modernity, the results revealed either no change or further extension of inverse association between education and modernity. Controls by variables showing weak relation with modernity such as socio-economic status of the family, parental modernity, and duration of urban dwelling did not alter the original inverse relationship between education and modernity. Controls by variables showing strong relation with modernity such as sex, type of schooling, media exposure and contact with other cultures indeed accentuated the inverse association between education and modernity.

Finally, we pooled together most of the potential explanatory variables of modernity with a view to determining their relative and combined contribution. The variables included in the predictor pool were : age, sex, family status, type of schooling, class, faculty, campus exposure, extracurricular participation, urban dwelling, Chandigarh stay, media contact and voluntary association participation. The results revealed that the maximum amount of variance explained by any single variable was only 2.66 per cent, apparently too low to justify predictive potential of any of the listed variables. Put together, all the variables succeeded in explaining 9.19 per cent variance, which again was quite small indeed.

In order to determine the serial order of variables based on their ability to explain maximum variance in the modernity of continuously regressing sample segments, we employed the Automatic Interaction Detection Programme. The results indicated that type of schooling emerged as the best predictor of modernity for the total sample, with Convent or public school educated being more modern (MS=55.09) than Govt. or private school educated MS=48.45). For the Convent or public school educated, faculty emerged as the best predictor of their modernity, with those in the natural and social sciences and professional groups obtaining a significantly higher mean modernity score (58.31) than those in the humanities (48.76). On the other hand, for the Government or private school educated, sex emerged as the best predictor of their modernity—the mean modernity score of boys being higher (46.65) than that of girls (45.77). For the boys with Govt. or private schooling background, again faculty surfaced as the best predictor of their modernity, with natural and social science students scoring higher (51.30) than those in humanities and professional courses (47.60). For the natural and social science students with Govt. or private schooling background, voluntary association membership figured as the best predictor of modernity, with those having record of associational membership scoring above (56.81) those without such a record (50.36). Turning to the boys with Govt. or private schooling background in the faculties of humanities and professional courses, class emerged as the best predictor of their modernity, with juniors (52.42) outscoring seniors (46.32). Finally, for the girls with Govt. or private schooling background, duration of urban exposure figured as the best predictor of their modernity, with those having 10 to 19 years of urban exposure obtaining a higher mean modernity score (50.15) than those having either less than 10 or more than 19 years of exposure (44.20).

Coming to the relative contribution of variable sets, our results revealed that early socialization variables succeeded in accounting for greater variance in student modernity than late socialization variables. In terms of structural versus developmental variables, the latter emerged as the more powerful in explaining student modernity. In effect, these results lent support to our hypothesis of greater explanatory relevance of early socialization variables, on the one hand, and of developmental variables, on the other.

On the whole, the study revealed that it was not the level of higher education but its quality and content that mattered for student modernity. More than higher education, it was the early schooling, particularly the Convent or public education, which stimulated student modernity. At any rate, education emerged as one of the important factors influencing acquisition of modern dispositions. However, if education is to become an effective medium of instilling attitudinal modernity in the young generation, it itself requires prior modernization. ☐

CAMPUS NEWS

R. A. U. projects for improving tribal economy

Rajendra Agricultural University has organised a series of projects to improve the tribal economy. The three Ranchi Units namely Ranchi Agricultural College, Ranchi Veterinary College and Ranchi Agricultural Research Institute have devised job-oriented production programmes and profit-oriented practical training supplemented by allied research. The Indian Council of Agricultural Research has provided the necessary financial assistance. The World Bank and the Ford Foundation have also extended their assistance in financing a large number of projects being executed by the university in this regard.

Dr. Dhyan Pal Singh after assuming the office of the Vice-Chancellorship has taken several practical steps to revolutionise the training of agricultural graduates and farmers of the tribal belt. Arrangements have been made for supplying better seeds for high-yielding varieties of foodgrains. The Veterinary College has arranged to supply 40-quintals of the versatile (Dinanath Seed) which is aptly called the wonder grass of Chotanagpur, capable of growing in all types of the soil whether acidic or alkoline.

With a view to making agricultural degrees more job-oriented in Bihar, a compulsory crop-production course for students has been designed for which a 5-acre plot representing 'a family farm unit' each will be operated by a batch of eight students at the Ranchi Agricultural College. The remarkable part of the scheme is that the agricultural operation will be carried out by the students themselves and no outside labourers would be associated. All the inputs will be supplied by the college on credit to be later adjusted against the farm produce. A similar profit-oriented project will raise fodder at the Kanke Veterinary College and both the projects will be co-related.

The Ford Foundation has recently made a special allocation of Rupees 10 lakhs for three years to screen rice varieties for water-logged and deep water areas in north Bihar and upland paddy and gall-fly resistant paddy in Chotanagpur. For special work on 'Parwal' a cash vegetable crop of 'diara' area, postgraduate fellowships have beed sanctioned. Chotanagpur has proved beyond doubt how to make the upland acid soils sweet for legumes, maize and other crops by the application of lime. The extension effort of the Department of Agriculture however has been slow to spread among the tribal farmers. It is necessary to train the staff in correct determination of acidity and method of application so that they are able to demonstrate to the farmers the experiments carried out in their laboratories.

The teaching method of "learning by doing" is expected to make the students employable for self-employment or for jobs by various employing agencies. The introduction of trimester system with internal evaluation will start with undergraduate students from the current academic session. This is an outstanding teaching and examination reforms being introduced in this state. Present unemployed agricultural graduates lacking in practical knowledge are not employable. They need to be restrained for a year under this system of "learning by doing."

Bangalore agrees for revaluation

Bangalore University has decided to review answer papers where there are allegations of gross undervaluation in the BA/BSc/BCom examinations. The university has also decided that the answer scripts for alleged gross undervaluation will be shown to students in the presence of an officer of the university. A full board of examiners would be asked to review the papers to see whether there has been gross undervaluation. If the Board of Examiners is of the opinion that there has been gross undervaluation of any script (the marks will be higher by 15 per cent or more), the marks given in this review will be incorporated and a fresh marks card will be given to the candidate.

The marks given by the Board of Examiners in the subjects concerned would be considered as the final marks and result would be revised accordingly.

Panel to study UGC report

The Union Education Ministry has constituted a committee to go over the recommendations of the Review Committee on the University Grants Commission with a view to implementing them.

Mr. P.S. Sabanayagam, Secretary to the Ministry will be the Chairman of this committee which will also have the Secretary of the University Grants Commission, Mr. R.K. Chhabra and three other representatives of the Ministry of Education and the Department of Personnel and Administrative Reforms. The Jha Committee has made certain vital changes in the light of the constitutional amendment making education a concurrent subject. The major recommendations which flowed from the premise that education is a concurrent subject are in respect of more powers to the President who is to be the visitor of all the universities and the advisory and supervisory role suggested for the University Grants Commission. Before approving any statute, the visitor will consult the Commission.

More jobs for farm graduates

Dr. M. S. Swaminathan, Director-General of the Indian Council of Agricultural Research gave Dr. M. Visveswaraya memorial lecture at the Indian Institute of Socio-Economic Studies, Bangalore. He mentioned about the triple purpose of agricultural advance. The agricultural growth, hereafter he said will have to provide not only more and better quality food but more income and jobs. He also made a critical review of the performance in the agricultural sector in the past 25 years in the country. The overall rate of growth in agricultural production was slow in relation to the growing needs. The rate of growth decelerated during the later part of the period and the last half of the period was characterised by higher instability. He therefore pleaded for a package of economically viable technology, a package of services and a package of public policies in order to increase agricultural productivity. In the area of technology, progress has been good, although the rate of progress had been better in crops like rice and jowar as against pulses and oilseeds. A package of services should aim at bridging the gap between what seems possible and what was being actually achieved in the area of credit availability and organisation of an efficient extension network. Cooperative management of certain aspects of agriculture, without interfering with the individuality of the landholding was exceedingly important if the cost of the production was to be reduced and productivity improved.

Dr. Swaminathan also referred to recent advances made in post-harvest technology which would enable the preservation of grains, vegetables, fruits, milk and other products in a quantitatively and qualitatively satisfactory manner. At present many cases of liver disease were being reported on account of mycotoxin in food. The mycotoxin problem became more acute in grains stored under high moisture content. The linking of production and post-harvest technologies was very important. Wheat, ragi and other straws could be enriched with molasses and urea. Oil could be extracted from rice bran tobacco seed, maize and mango kernel. He suggested that a food-cum-cash-for-work programme could be developed as part of the integrated rural development strategy. Food for work alone would not be adequate since the poorer families would require cash for several purposes. Employment generation strategies developed to ensure optimum utilisation of local resources could be based on this concept of providing both food and cash.

Biological science centre in Hyderabad

The centre for cellular and molecular biology set up by the Council of Scientific and Industrial Research at the regional research laboratory, Hyderabad has conducted research in frontier and multi-disciplinary areas of modern biology. The laboratory is keen on application of research findings for further carrying out exploratory work to aid development of biochemical and biological technology in the country,

The bio-chemistry group of the research laboratory, Hyderabad, which formed the nucleus of the centre had made notable contributions during the last two decades. With the establishment of this Centre under the leadership of Dr. P. M. Bhargava the group has already received wide international recognition for its contribution. The Centre is expected to play even greater role in acquiring a rightful place for the country in the various growing areas of science. A unique feature of the Centre has been the emphasis on quality work and close interaction with other centres of excellence in area in India and abroad.

Calcutta varsity sets up an archaeological museum

The Archaeology Department of Calcutta University has set up a museum. It will contain paleolithic artifacts and antiquities representing the pre-Harappan and Harappan civilisations. The museum has been set-up with the necessary financial assistance of the University Grants Commission and provides facilities for higher research in archaeology. Dr. Nihar Ranjan Roy, the noted Historian, speaking at the inaugural function stressed the need for undertaking problem-oriented studies and research in the field of archaeology to help historians unmask the riddle of buried civilisations.

LL.M. course for Himachal Pradesh

The University of Himachal Pradesh has decided to start LL.M. classes from the current academic session. Dr. B. R. Chauhan, Dean of the Law Faculty, has initiated steps for providing requisite staff and library facilities so that classes may start immediately. The university has also increased the intake of students to the maximum limit of 60 per session.

Govt. recognises IIM diploma

The Central Government had decided to recognise the Post-graduate Diploma in Management of the Indian Institute of Management, Bangalore and treat it at par with the Master of Business Administration degree of other Indian universities.

V.K.R.V. Rao prizes instituted

The Institute for Social and Economic Change, Bangalore has instituted “Professor V.K.R.V. Rao prizes in social sciences research.” Three prizes of Rs. 5,000 each will be awarded annually for high quality research in social sciences. The awardees will be expected to have made significant original contribution to human knowledge and progress, applied or fundamental, in any of the following social science disciplines: economics (including commerce), demography, education, history, human geography and ecology, linguistics, political sciences (including area studies and international relations), psychology, public administration and management (including business administration) and sociology and social and cultural anthropology (including social work and criminology). One prize will be awarded every year in Economics. The other two will be rotated among the remaining nine disciplines or groups of disciplines.

Any citizen of India below 45 years in age and engaged in research in any of the 10 social sciences mentioned above will be eligible for the competition. The awards would be made on the basis of work done in India in the preceding five years.

RAU campus councils formed

Each college of Rajendra Agricultural University, Bihar will soon have a campus council. According to Dr. D. P. Singh, Vice-Chancellor of the university, the Council would act as an advisory body on matters concerning the university affairs. The purpose of the campus council would be to attain the highest level of competence, efficiency, integrity, discipline and team work and to adopt constitutional means for solution of all academic problems.

The Council would consist of the vice-chancellor, principal, hostel superintendents, best students of each class, captains of various athletic and recreational clubs, heads of departments, librarians and medical officers. The Council would promote a spirit of comradeship amongst teachers and students of the university.

Philosophical congress at Gauhati

The fiftysecond Indian Philosophical Congress will be held at Gauhati University from October 29 to November 1 this year. This would be the first Conference in the North-eastern region. A committee of university teachers is already busy planning the various arrangements in this connection. The Conference is likely to be attended by over 400 delegates from all parts of the country.

BHU allows improvement of division

According to a recent decision, the students of Banaras Hindu University would be provided with another opportunity to appear at the second university examination with a view to improving their previous performance. The university has simultaneously withdrawn the provision of payment of fee for the revaluation of the scripts in cases where the representation of the examinees is accepted by the university on the recommendation of an appropriate advisory committee.

Moon craters named after Indian scientists

Seven Indian scientists have been honoured by having moon craters named after them on the recommendation of the international astronomical union task group on lunar nomenclature. They are: Dr. Homi J. Bhabha, Dr. Jagdish Chandra Bose, Dr. Anil K. Das, Dr. S. K. Mitra, Dr. C. V. Raman, Dr. Meghnad Saha and Dr. Vikram A. Sarabhai.

Social work practice and education in India

Dr. Malcolm S. Adiseshiah, Vice-Chancellor of Madras University, while inaugurating the seminar on four decades of social work practice and education in India, organised jointly by the Association of Schools of Social Work in India and the Madras School of Social Work, said that India needed futuristic front-line professional social workers. These skilled social servants would stand by the rural poor in their struggle to rid themselves of poverty. He suggested the institution of a first-degree course in social work with a pronounced rural focus.

Referring to the pre-occupation with solutions to the symptoms of social ills, Dr. Adiseshiah said that social workers should expand their frontiers by studying the social matrix that threw up a maze of problems. The task of a social worker was to assist the disadvantaged citizens fast, 'working himself out of the job,' so that they would face further challenges on their own.

Dr. M.S. Gore, Director of the Tata Institute of Social Sciences, Bombay offered an expansive view of the state of being handicapped by redefining the 'handicapped' as the large mass of urban and rural poor. Explaining the inability of the social workers to generate employment for the handicapped, he said the social servants could channel the society's welfare measures to the doorstep of these underprivileged. He said that the problems the social workers could resolve, such as family or marital counselling, had not gained visibility in the better-off sectors of society in India and the poor could not buy the services the social workers could offer. Such a situation tempted the social servants to attempt to co-opt new areas of concern that were not exactly relevant to their perspectives, as their areas of operation. He cited the example of personnel management and industrial relations which were no longer matters of mere welfare of the workers.

New population studies centre

The Academic Development Board of Jawaharlal Nehru Technological University, Hyderabad has decided to set up a Population Studies Cell to develop in course of time into a full-fledged centre to conduct demographic studies in the context of the technological development in the country. The Cell will be wholly financed by the Family Planning Association of India who identified the J.N. Technological University among a few other institutions as a suitable centre for the location of this project.

The Vice-Chancellor, Shri M.V. Rajagopal, while presiding at the Academic Development Board meeting, made an appeal to the members of the Board to strengthen the participation and involvement of students in the NSS programme. The programme provides good opportunity to the university youth for involving themselves with the masses of the country and sharing their expertise in solving to a great extent their problems of the countryside. The university has decided to issue special certificates to students whose role and participation in the NSS was considered as outstanding. These certificates would be awarded along with a degree certificate at the time of the completion of the B.Tech course.

Centre for tribal areas

The Indian Council of Agricultural Research is establishing a central horticultural experiment station in Panchmahal district in Gujarat, Maharashtra, Madhya Pradesh and Rajasthan. Mr. S.S. Barnala, Union Minister for Agriculture and Irrigation, made this announcement while laying the foundation-stone of research laboratories of the Indian Institute of Horticultural Research in Mysore. ICAR had also proposed to establish a similar research station at Chotanagpur in Bihar to cover the tribal areas of Bihar, Orissa and West Bengal. These stations were being established keeping in view that tribal area development had been much neglected for quite some time.

National board for adult education

The Government of India has set up a high-powered national body to implement a massive programme of adult education formulated by the Ministry of Education. The National Board of Adult Education has been constituted to take all steps leading to eradication of illiteracy among the youth within a priod of ten years. At the national level organisation, the Board will formulate policy and programmes as well as coordinate their implementation. The board would be headed by the Union Minister for Education, Social Welfare and Culture. It will include four other Union Cabinet Ministers for Information and Broadcasting, Agriculture and Irrigation, Labour and Parliamentary Affairs and Health and Family Welfare. The Deputy Chairman of the Planning Commission, the Education Secretary, two Lok Sabha members, one Rajya Sabha member and five state education ministers representing north-eastern, northern, western and southern regions are also on the board which is expected to meet at least twice a year. Besides advising the Central Government on all matters relating to adult education and doing periodic review and evaluations of implementation, the board has been given two important functions.

It will have to take steps for the promotion of adult education with the help of official and non-official agencies, particularly voluntary organisations and youth. It has also to secure coordination between Central and State Governments, among various governmental and semi-governmental agencies and between official and non-official agencies.

The term of the board membership for Parliament members and non-officials will be two years from the first meeting. They may, however, be reappointed. The board can set up committees and sub-committees and co-opt individuals for specific purposes. The Joint Secretary who is in charge of adult education will be its member-secretary. The Chairman of the University Grants Gommission, the Chairman of the Central Social Welfare Board, the Chairman of the Cottage and Village Industries Commission and the President of the Indian Adult Education and the President of the Federation of Indian Chambers of Commerce and Industry would be the ex-officio members. Lt. Governor and Chief Commissioners will be appointed on the board for two years by rotation.

Aligarh to organise workshop in medieval history

The Centre of Advanced Study in History of Aligarh Muslim University would organise a regional workshop in Medieval History during October. The aim of the workshop is to introduce the participants to the latest work on the subject and to stimulate discussion among them on important problems. Degree college teachers of Medieval Indian History in the States of Punjab and Haryana and the Union Territory of Chandigarh interested in attending the workshop may contact the Head of History Department. The university has arranged free boarding and lodging to the participants. The travel expenses of the participants would also be met by the centre.

IIM seminar

The Indian Institute of Management, Bangalore organised a two-day seminar on Communication for Rural Development in Karnataka. The seminar emphasised the district-level planning, management and evaluation of the programmes and the role of communications in rural development. Dr. A.V. Shanmugam, Professor of Communication was the Course Director. Thirtysix State Government officials participated.

Kumaun University makes a headway

Kumaun University, Nainital, has developed a programme for the uplift of the hill region. The teachers and students community would be closely involved with these projects covering the socio-economic, cultural and scientific activities. Teams of students under suitable supervisors will spend some part of their time in investigating and collecting data on diverse subjects. This will not only train them in methodology but bring them into contact with village folks so that they recognise the problems and work towards their solution later in life. It is proposed to bring at least 500 students in different programmes such as : (1) cultural reawakening and beautification of environment by plantation of trees and preservation of wild life, collection of folklores, etc., (2) adult education and non-formal education involving the general arts students, (3) socio-economic survey (involving Sociology and Economics students), (4) archaeological survey (involving History students), (5) geological survey (involving Geology students), (6) Para-medical help, health and hygiene, including analysis of drinking water involving Biology students, (7) study of high altitude flora involving Biology students, (8) soil testing involving Chemistry students.

This programme will ultimately form a part of the Community College but will have a separate organisation managed by a cadre of project officers and extension assistants.

The other novel programme organised by the university is with regard to the opening of the contact centres at Khatima, Okhalkanda, Pokhrar, Sealde and Manila in the districts of Nainital and Almora. The opening of these contact centres is a new experiment in education. It is designed to provide facilities for coaching of aspiring private candidates for various university examinations by qualified teachers of the intermediate colleges or higher secondary schools or by roving university teachers. The university provides textbooks, libraries and auxiliary reading material to these centres and arranges for orientation/training of teachers of centres through workshops. The scheme is assisted by the University Grants Commission and envisages relieving pressures on the degree colleges and minimizing the cost of higher education as well as stopping the alienation of youth from the village life. It is proposed that during the course of years, the scheme will be extended to whole of the Kumaun region.

The Indian Space Research Organisation has also shown keen interest in supporting the various projects relating to study and appraisal of natural resources and involvement through remote sensing. Professor Dhavan, Chairman of the ISRO has personally visited the university and discussed with the authorities the various collaborative projects.

Recent additions to NIS complex

The National Institute of Sports will have a new hostel block named after the Hockey Wizard, Major Dhyan Chand. Mr. Sikander Bakht, Union Minister for Works and Housing declared open in Patiala the double-storey complex which has been constructed primarily to accommodate the national players who attend various coaching camps every year in preparation for international competition. The number of national coaching camps has gone up from 5 to 50 within a period of six years.

The new 112-bed hostel will provide accommodation to three persons to a room each having separate cupboards, tables, side-racks, common bath and toilet with all modern fitting and hot water facilities.

Mr. R.L. Anand, the Director of the Institute, has taken special care in planning the details. The residential units are well lighted and ventilated with fans and covered balconies for sleeping outdoors. The two adjoining rooms have been provided with enough sitting place. There is also a provision for accommodating coaches and officials of the training programme. The construction of the new hostel is a departure from the common concept of dormitory which would have one big room for six persons, three on each side of the wall with moving space only in the middle, resembling a hospital ward.

Importance of farm news

A three-day seminar of farm journalists from Andhra Pradesh, Orissa and Madhya Pradesh was conducted in Hyderabad. The seminar underlined the need for the growth of farm journalism and to give more importance to agricultural news. Dr. C. Krishna Rao, Vice-Chancellor, Andhra Pradesh Agricultural University who presided on the first day of the seminar said that since more than fifty per cent of the gross national production was from agriculture more importance should be given to farm news. Andhra Pradesh, he said, was in the forefront in the sphere of agricultural production and animal husbandry.

Dr. H.K. Pande, Director of the Central Rice Research Institute, Cuttack outlined the major activities of the Institute in Orissa. He said that a number of hybrid paddy varieties resistant to pests and diseases were evolved. About Rupees 92 crores has been allocated for agricultural research activities in the country during the Fifth Plan period and the agricultural research institutes have succeeded in transferring the technology to the farmers. The seminar was sponsored by the Andhra Pradesh Agricultural University with the assistance of the Indian Council of Agricultural Research.

Calcutta varsity disfavours formation of sub-standard universities

The Calcutta University Syndicate in its recent meeting has recommended the decentralisation of work of the existing universities as suggested by the Ghani Committee Report. It was felt that it would be proper, in the first instance, to set up regional councils for postgraduate and undergraduate courses in Midnapore under Calcutta University. No hasty steps should be taken in setting up another university in the near future. The academic performance of the regional councils should be evaluated. The postgraduate and undergraduate teaching and research standards in these centres should be watched for the next few years. It was felt that there would be no use in creating sub-standard universities. Some of the members however said that the proposed Midnapore University could be confined to professional courses in agriculture, horticulture, pisciculture and sericulture, making these courses job-oriented, which would then merit consideration. But ultimately the consensus was for the establishment of regional councils. A team from the University Grants Commission would be visiting Calcutta to examine these proposals. A six-member committee with the Vice-Chancellor, Dr S.R. Mukherjee, as Chairman was appointed by the university to process the matter.

National Staff College Organises Course for Finance Officers

The National Staff College for Educational Planners & Administrators in collaboration with the Faculty of Management Studies, University of Delhi, organised a short training programme from August 29 to September 9, 1977 for University Finance Officers. This was the third one in the series. Finance Officers from twentyfour universities in India had already participated in the first programme. The second one was attended by another group of twenty officers. In all about fiftysix universities have been covered under this programme.

The need for proper orientation and training of University Finance Officers has been recognised for quite some time now. The National Staff College after considerable discussions and deliberations has designed special programmes for the training and orientation of officers.

Dr. B. Ramachandra Rao, Vice-Chairman, University Grants Commission, while inaugurating the third training programme in New Delhi said that some universities instead of becoming centres of knowledge, wisdom and culture have of late become centres of corruption, nepotism and indiscipline. The universities suffer from serious drawback that all their finances come from the state governments and the University Grants Commission. It is high time that universities obtained endowments for the execution of their special projects. For example, shipping industry in the country can support teaching and research programmes in marine engineering, mining industry can support in a similar way the mining courses. Besides enterprising universities can organise industries on a cooperative basis.

Referring to the unimaginative allocation of advance grants released by the Commission to the various departments of the university, Professor Rao pointed out that such procedures in financial management have tended to equate the good and bad departments. Those departments which have the need and capability to spend money faster should be allowed to do so, subject to an optimum ceiling. He emphasised the need for officers to approach his task with a sense of humility and work towards making the university administration efficient, free from bureaucratic hurdles and procedures.

The instructional methodology of the training programme this year was largely based on lectures and discussions. In addition there were two panel discussions on the "Role of Finance Officers" and "Format of the University Budget". Practical exercise in the application of Cash Flow Analysis was also included in the course. The participants discussed the system of financial administration in their respective universities and identified various problems confronting them. These were followed by discussions and clarifications.

The participants visited the office of the University Grants Commission to acquaint themselves with the functioning of that organisation. They also visited the Faculty of Management Studies and Financial Administration Section of Delhi University.

Shri Satish Agarwal, Minister of State for Finance, Government of India, in his valedictory address referred to the new dimensions of the role of the University Finance Officers. He said that they play a creative and imaginative role. While performing their function as auditors and accountants, they should also facilitate the growth of the university. The rules and regulations should be interpreted in the spirit in which they were framed and not in a wooden manner to cramp initiative and to place hurdles in the way of healthy experimentation. They should also take lead in getting rid of outdated rules and in introducing modern methods of payments and receipts.

A rigid approach to the financial matters would be out of tune with the needs of a rapidly developing university. While the utmost economy should be exercised in utilising public funds, at the same time sufficient scope should be allowed to the University Faculty to experiment with the new ideas and projects and the entire financial system should be put on a rational basis.

The present procedure of budget formulation in universities may be fairly satisfactory, but they need improvement so as to provide for a full measure of participation and involvement of all interested parties. The universities should also set up a Planning Cell for the purpose of preparing a comprehensive plan that would project the growth of the institution in future years for at least a decade. The cells should function under a high-powered faculty committee under the chairmanship of the Vice-Chancellor. It should make a systematic and continuing study of different posts and their functions so that overlapping of functions could be avoided. These cells should also determine priorities and on that basis evolve norms for the allocation of funds to various departments.

As in Government, so also in the sphere of Universities, it is necessary to attempt measurement of physical results achieved by means of financial expenditure. It would be worthwhile for University Finance Officers to study some of the latest management techniques such as Planning Programming Budget System (PPBS), Programme Evaluation Review Technique (PERT), Systems Analysis and Operational Research (SAOR). But these should be applied to higher education after making the necessary adaptations and modifications.

In the sphere of education the quality and quantity of output is not easily susceptible of measurement yet we cannot simply spend money, sit back and hope for the best results. We must develop techniques for monitoring the results, however rough they may be. This is an area in which it may be useful for specialists in Public Finance and those in the Economics of Education to come together and do collaborative research studies.

U.G.C. Regional Workshop in Commerce

For quite some time, the University Grants Commission has been expressing concern that higher education in India has expanded at a faster pace than the economy's capacity to absorb all those coming out of universities and colleges. The situation is even more alarming in the case of Commerce. For, enrolment in Commerce courses had risen so spectacularly during the last several years that the proportion of Commerce students to those in higher education in general had increased from 10 per cent in 1951 to over 13 per cent in 1976. This quantitative explosion in Commerce courses presented problems in preserving quality. There is also the paradoxical coexistence of mounting unemployment of Commerce graduates on the one hand and the shortage for qualified accountants, office administrators, secretaries, finance, personnel and banking experts on the other. Confusion about the objectives and delineation of their scope and respective roles among commerce, management and professional courses is still confounding. The rapid advancements in the organisation of society, business and industry posed problems of obsolescence. Consequently, the need for rendering the Commerce curriculum socially relevant and pragmatic assumed paramountcy. Concomitantly, teacher training and development acquired further significance.

Against this background and at the instance of the U.G.C. Panel on Commerce, Andhra University was requested to organise the first regional workshop in Commerce. This workshop addressed itself to the goals and strategies of Commerce education in India, at the University level, with a view to:

examine the emerging trends in Commerce education in its entirety for a consensus on prospects and problems;

modernise the syllabi and make them relevant to the needs of the society and students;

indicate the ways in which the study of Commerce could be related to and enriched by a study of other broad disciplines;

consider the desirability of developing an integrated question bank in Commerce subjects based on objective type;

formulate guidelines for the preparation of textbooks, reading materials and other aids to teaching technology;

devise ways and means for improving the standards of research in Commerce subjects; and,

explore the possibility of integration of work experience as well as National Service Schemes with the curriculum of Commerce courses.

Delegates representing the universities and colleges, University Grants Commission, Institute of Chartered Accountants, Indian Institute of Foreign Trade, Government, Industry and Business participated actively in the workshop. Some of the important recommendations of the workshop are given below:

Commerce Courses at Different Stages

(a) **Secondary level**: The workshop felt that at the secondary level Elements of Commerce and Elements of Book-keeping may be introduced as optional subjects. Typewriting and short-hand should not be introduced at SSC level.

(b) **Pre-university/Intermediate level**: The following subjects may be offered as optionals: Fundamentals of Commerce; Fundamentals of Book-keeping and Commercial Geography and Commercial Arithmetic.

(c) **First Degree level**: Being a part of the university discipline, the first degree is primarily a foundation degree. But since a large number of candidates are seeking employment and are unable to take up post-graduate courses due to various limitations, it should be made a terminal course with an employment bias. Towards this end, some degree of specialisation can be introduced at the B. Com. level. This can be done by suitably restructuring the commerce courses.

For this purpose, it is desirable to have a laboratory in each and every college—to start with, a model bank, a model office with business machines and other equipment, forms and proforma original documents which are normally used in various offices. The syllabus should be framed in such a way that much of the deadwood is cut off. The advanced theories should be avoided as far as possible and greater emphasis should be placed on work curriculum and the requirements for the middle-level executive.

(d) **Post-graduate level**: The first two semesters should aim at broad based in-depth fundamental commercial courses. During the third and the fourth semesters highly specialised subjects can be offered through four or more courses. At the post-graduate level the objective of education should be to train the students for assuming higher positions in specialised fields and in some cases, preparing the students for teaching and research.

Course Content

(a) **Uniformity upto the degree level**: There should be uniformity, to a very large extent, upto degree level at the state level in order to facilitate the migration of students and teachers and also to effect economy in the preparation of text-books in regional languages.

In view of regional variations, the suggestion for one university for every state for awarding bachelor's degrees is not favoured. There should, however, be a

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Workshop organised at Visakhapatnam on July 4-6, 1977 under the directorship of Professor K. V. Sivayya.

common Board of Studies in Commerce at the state level consisting of the academic representatives from all the universities in the State and two or three members representing professional institutes and associations. The Vice-Chancellors of universities of different States may be requested to evolve a common Board of Studies in Commerce for their respective states.

New subjects and new areas of study

Languages, particularly, Business English, should be offered upto three-year B. Com. course. It is not necessary to introduce any foreign language (other than English) as a part of the B. Com. course. However, diploma courses in foreign languages like Japanese, Arabic, French, German and Spanish may be offered as an evening course in colleges and universities where adequate facilities exist or can be created.

The title of the Commercial Geography paper in B. Com. may be changed as 'World Resources and Trade' and necessary changes be made in the syllabus. If some universities so desire, a paper on 'Foreign Trade: Theory and Practice' may be offered in lieu of the paper 'World Resources and Trade'.

International Business (Trade and Foreign Exchange) may be introduced as a specialisation in addition to the already existing ones, at the M. Com. level consisting of four or more courses, with special emphasis on foreign exchange operations.

It is desirable to introduce Mathematics as a compulsory subject at the B. Com. degree level. A phased programme of introducing Mathematics and other quantitative techniques to start with as a non-credit course, may be worked out by different universities. The UGC and other grant giving bodies should give necessary financial assistance for organising teacher-training programmes and offering the subject.

Postgraduate diplomas or specialisations may be introduced in the third and fourth semesters or the final year of M.Com. in the following areas to increase the potentialities for employment and for better job openings and avenues for self-employment:

(i) Entrepreneurship (the Small Industries Training Institutes and other governmental departments and corporations, selected banks connected with entrepreneurial development may also be associated with the designing of the curriculum and in offering the same).

(ii) Tax Planning and Management (to be offered in collaboration with the Institute of Chartered Accountants and professional associations)

(iii) Cost Accounts (in collaboration with the Institute of Cost and Works Accountants of India)

(iv) Secretarial Practice (in collaboration with the Institute of Company Secretaries of India).

Five-year integrated course in Commerce

The possibility of offering a five-year integrated commerce course be explored on an experimental basis. The five-year integrated commerce course should be offered after SSLC or 10th Class with greater emphasis on practical training during vacation months. A sub-committee may be appointed at the all India level to workout the details.

Distinction between M. Com. and M.B.A.

It is desirable that there should be a clear distinction between M. Com. and M.B.A. The current trend of M.Com. courses mixing with M.B.A. courses be avoided.

It is admitted that it is very difficult to clearly define and delineate the areas in M.Com. and M.B.A. The distinction is observed, at present, more at the admission level. While M.B.A. is open for degree holders in all subjects, M. Com. is open for only B. Com. graduates.

The M. Com. students may be trained to be specialists in functional areas like Finance and Marketing whereas M.B.A.'s can be expected to be generalist administrators with sectoral specialisation in areas like health and hospital management, management of water resources, management of public utilities, management of educational or transport or energy systems, etc.

Practical Training

The problems in providing for practical training at the B. Com. levels were considered from different angles. It is felt that at the B. Com. level, it may be confined to visits to stock exchanges, industrial establishments and financial institutions. Extension lectures by professional and successful entrepreneurs may be arranged as frequently as possible.

At the M. Com. level practical training be confined mainly to visits to stock exchanges, industrial establishments, and financial institutions. Extention lectures by professionals and successful entrepreneurs may be arranged as frequently as possible. In addition to these, project work may be offered in lieu of one paper so that an opportunity can be given to the bright students to obtain exposure to the practical side of the business or industrial firms and sharpen their analytical skills and written expression through the preparation of a report. Providing practical training for all the post-graduate students is not feasible in view of large numbers and it is also not desirable because indiscriminate exposure to business and industrial firms will result in the creation of bad image on both the sides—the college/university on the one hand and business/industrial firms on the other.

National Service Scheme

The question of integrating the National Service Scheme with the commerce curriculum was considered in-depth. It is felt that NSS should be viewed as an extra-curricular activity and hence it is neither desirable nor practicable to link it with the curriculum. However, the workshop recommends that all possible encouragement should be given to the commerce students who participate in the NSS voluntarily.

Review of the Curriculum

The curriculum at all stages, especially at the degree and post-graduate level, should be reviewed once in every three years. The Chairmen of the Boards of Studies in Commerce and related subjects should work in conjunction with the representatives of professional institutes, professional associations and a select few major prospective employers. Such review should also be made against the background of the feedback that emerges from a survey of opinions of the alumni undertaken once in three years.

Admissions

The pros and cons of restricting admissions into B. Com. course for only those with commerce in the qualifying examination were considered. The Workshop is opposed to restricting admission only to those who have had commerce in the qualifying examination. However, the Workshop felt that it is desirable to give weightage to those who had a grounding in commerce at earlier stages of study.

Physical Facilities

The Workshop took note of the non-existence of even bare minimum physical facilities like furnished classrooms and a library in most of the colleges. The universities and the UGC should not take a lenient view of the situation and should make every efforts to ensure that all colleges and universities are provided with at least minimum physical facilities.

The library facilities should be expanded on a large scale in all colleges and universities. Separate budget allocations should be made for acquiring books and journals in commerce subjects. Depending on the student strength in a particular college, reputed professional journals should be subscribed for, in multiple numbers, if the journals were to meaningfully serve the requirements of all the students.

Facilities for laboratory and audio-visual aids should also be provided by appropriate grants from the grant giving institutions like the UGC and the concerned state governments.

It is suggested that the ideal class size at the undergraduate level and post-graduate levels would be 40 to 50 and 25 to 30 respectively. The teacher-student ratio should be 1:20 at the undergraduate level with a minimum complement of four lecturers. The workload of the teacher at the undergraduate level should not be more than 15 hours a week and no commerce teacher should be asked to handle more than three subjects. In case of postgraduate courses and research the ideal teacher-student ratio would be 1:10 with a minimum of four staff members comprising of professors, readers and lecturers in the ratio of 1:1:2.

Teacher Recruitment and Training

In recruiting the teachers weightage may be given to those candidates with professional qualifications in addition to the minimum prescribed qualifications for a post. The teachers both at the under-graduate and post-graduate level be exposed to continuous education in the form of refresher courses, seminars, workshops, summer schools, etc. The UGC may extend financial assistance for the organisation of at least four summer schools in commerce every year on a regional basis. The facilities under the Faculty Improvement Scheme of the UGC may be extended to teachers with doctoral degrees also. Every year at least one teacher should be reputed for further education to professional and advanced institutions of learning in the relevant field of study. It is also incumbent upon the teachers to improve their qualifications, experience and knowledge by undertaking visits to centres of advanced studies and business and industrial establishments.

Preparation of Teaching and Reading Materials

The UGC's scheme for preparation of standard text-books with Indian background is appreciated. It is suggested that the scheme deserves wider publicity and the commerce teachers would do well to avail the facilities on a larger scale and in a meaningful manner. Every effort should be made to prepare standard text-books, monographs, books of reading, and case studies based on Indian experience. The Workshop observed that though there are many books by Indian authors few can be acclaimed as standard ones. It is the responsibility of the teachers to encourage only standard publications for prescription as text-books and reading material for different courses.

Need for a Teaching Oriented Journal in Commerce

It is highly desirable to have a teaching oriented journal in Commerce which gives uptodate information on the latest developments in different branches of study in the area of commerce such as: Taxation; Law; Government Policy; Banking; Trade; etc. The journal should highlight the developments in teaching methods and teaching technology and also the requirements of the students at the B.Com. and M.Com. levels from the academic point of view.

A sub-committee may be appointed at the all-India level to work out the details of the proposed teaching oriented journal in commerce.

Examinations and Accreditation

The Workshop felt it wise to remain silent on the issue of examination reforms because the UGC has given much thought to it at the national level and recently evolved a set of proposals which are now being implemented on an experimental basis in some universities.

The Workshop observed that all the three universities in Orissa print the name of the college, where the student received instruction, on the degree. It is suggested that in order to promote healthy competition and to encourage the individual colleges and universities to have greater commitment and responsibility in their academic endeavours, it is felt desirable to print the name of the college, where the student received instruction, on the degree. In the case of private students the work 'external' may be printed. If there is resistance for this proposal, initially it can be implemented in respect of those colleges which are desirous of having their name of the degree.

Research

The main thrust of research in commerce should be on academic excellence as reflected in the contribution to the existing knowledge and social relevance. The priority areas of research should be of relevance to the national and international business problems in different sectors of the economy and regional development. The colleges and universities would do well to direct a greater part of their research effort to local problems which will result in better utilisation of local resources, etc. The emphasis could be on inter-disciplinary and applied research.

Advanced Centres of Learning and Research in Commerce

Advanced centres of learning and research in commerce may be set up in some universities where the Faculty of Commerce has a distinguished record by virtue of its good traditions in teaching and research. At least six such centres may be set up during the current plan period in different regions of the country.

Interaction with others

The Commerce faculties in colleges and universities should interact closely with the other university disciplines like behavioural sciences, operations research and quantitative techniques, law and economics.

The relations with professional institutes and professional associations can be institutionalised by reciprocal representation on the boards of studies (in relevant cases), committees, etc. The UGC Panel on Commerce may take appropriate steps to initiate a dialogue with professional institutes like the Institute of Chartered Accountants of India, Institute of Cost and Work Accountants of India, Institute of Company Secretaries of India, Indian Institute of Bankers, etc., for reciprocal recognition of degrees, common syllabi, exemption of papers, waiving of certain requirements to practice a profession or undertake doctoral research, etc.

A sub-committee may be appointed at the national level to work out the details of proposals for college-business exchange programmes and college-government exchange programmes. It is hoped that these programmes will result in better appreciation of the mutual roles and in bridging the gap between theory and practice.

UGC's Decision on B.B.A.

The Workshop took note of the recent circular issued by the UGC to the effect that in future no college or university should start a Bachelor of Business Administration (B.B.A) course. It is felt that the UGC's decision is a step in the right direction because as it is enough facilities could not be created for the MBA courses in different universities and also because the problem of finding qualified staff has been intense even in the case of universities offering M.B.A. courses.

Correspondence Education and Private Study

The emerging trends in correspondence education and private study are worthy of encouragement. However, the Workshop felt that the UGC would do well to ensure that for any course, both at the undergraduate and post-graduate level, there is only one correspondence school in each state. If more than one correspondence school offers the same course in a particular state it becomes highly uneconomical and the quality of the course may be affected.

While the Workshop appreciated the present efforts of different schools of correspondence courses towards mutual interaction, it is suggested that there should be greater interaction among the schools and correspondence courses in different states in matters like preparation of common reading material or exchange of reading material, etc.

Structure of the Commerce Faculty

It is suggested that the Commerce Faculty should hereafter be called as Faculty of Business Studies. As in the case of Arts and Sciences, the Faculty of Commerce should comprise of not just one department, but several departments like Department of Accounts, Department of Finance, Department of Marketing, Department of Personnel Management, Department of Banking, Department of Transport, Department of Secretarial Practice, etc. These changes will have a far reaching influence on the future of commerce education. The academic and professional content of the courses could be made more intensive. Creation of full professorialships in different subjects of study will ensure meaningful improvements in course content and teaching.

Need for Separate Colleges for Commerce

Wherever possible there should be separate commerce colleges for the following reasons: (1) The enormous rise in enrolments and the need to make commerce courses work-oriented and job-oriented. (2) The proposal is in conformity with the idea that no college should have more than 500 students on its rolls. In several colleges commerce enrolments exceed 500. (3) When our efforts to vocationalise commerce courses take shape, commerce colleges require committed staff with requisite physical facilities like a model office with a full complement of office equipment, charts, etc., similar to that of a workshop in an engineering college. (4) At the moment, the revenues from commerce courses are being spent for developing courses in other disciplines by several colleges. If there are separate colleges for commerce this can be averted and the revenues from commerce courses can be justly used for the development of commerce courses.

Placement Services

The commerce departments in colleges and universities should make adequate efforts to start separate and effective placement services for commerce graduates. Every college or university with more than 200 commerce students on its rolls can start a placement cell and maintain regular and close liaison with the prospective employers. The UGC may make modest contributions for the creation of infrastructural facilities for such placement cells.

Continuing Education for the Alumni

The need for continuing education for alumni is recognised. Since teachers also are alumni it is suggested that part of the expenditure on teacher training can be met from the allocations made under the head 'continuing education'.

As for continuing education for those other than teachers, it is suggested that an attempt should be made, to start with, by starting alumni associations in different colleges and universities. These alumni associations, in collaboration with their alma mater and professional institutes and associations may offer short-term training programmes for their members. If some universities come forward with proposals for offering diploma courses and short-term courses for their alumni the UGC and other grant giving bodies may encourage them with suitable grants.

Medium of Instruction

So long as English continues to be the most popular international business language and so long as established business and industrial establishments continue correspondence and other transactions in English, it is desirable that English should be retained as the medium of instruction in commerce courses, at least at the post-graduate level. The workshop observed that if instruction is offered in regional languages it would adversely affect migration, localise employment opportunities and hamper national integration.

Consultancy

The commerce faculty should be encouraged to undertake consultancy. The colleges and universities may frame appropriate rules in this regard. It is felt that consultancy by faculty would augment the faculty's capacity for generating funds from out of their own efforts and also contributes significantly in improving the knowledge of the teachers especially on the practical side of business and industrial activities.

Special Financial Requirements

Since practical orientation has hitherto been lacking in commerce the existing physical facilities for commerce courses are restricted to furnished classrooms and limited library facilities. Hereafter provision should be made for industrial visits, extension lectures, laboratories, and audio-visual aids. These proposals involve huge amounts. Though the demand for additional financial requirements cannot be met overnight, in a phased manner, in any case not later than the next five-year period, suitable grants should be made available for developing the requisite minimum physical facilities keeping in view the special requirements of commerce courses, especially in the context of the modernization efforts on the anvil. ☐

Seminar on Technical Education

A two-day seminar on engineering education was jointly organised by All-Karnataka Engineering College Teachers' Association and the Institution of Engineers in Bangalore.

Dr. D.V. Urs, Vice-Chancellor of Mysore University, while inaugurating the seminar, said that engineering education should have a social relevance. He pleaded for imparting liberal education to the students. At least 25 per cent of studies in the engineering curriculum should form part of liberal education like Sociology or Philosophy. Such a study would help students become better human beings. On the role of technocrats and bureaucrats, Dr. Urs suggested that the thinking should be such that these persons should have an important position and may be given ample opportunities to serve the country. The engineering education should be effective. There was need for closer cooperation between the university and the directorate of technical education and the industries, research establishments and the public utilities. The seminar also discussed the various aspects of engineering education including management of technical education and role of engineering administrator and experts in the field. The seminar surveyed the problems confronting developing countries.

I.A.A.L. elects new executives

The Indian Association of Academic Librarians was reformed in New Delhi. The founder members met under the Chairmanship of Prof. P.B. Mangla, Dean, Faculty of Arts, Delhi University. The Association has about 95 members drawn from a cross section of university and college librarians, library science teachers and office bearers of various state level associations. Under the revised constitution, the Association would devote itself to prompting studies and discussions on all professional matters affecting the academic librarians and library science teachers. It would suggest ways and means to promote the professional efficiency. The Association will seek to strive, advocate, secure and safeguard the rights and privileges of its members. Mr. Girja Kumar, Librarian of Jawaharlal Nehru University was elected the first President and Mr. Shahabuddin Ansari, Librarian of Jamia Millia Islamia as Secretary.

THESES OF THE MONTH

A list of Doctoral Theses Accepted by Indian Universities

PHYSICAL SCIENCES

Mathematics

1. Babu, M. Syam. Magneto hydrodynamics—some problems in magneto-hydrodynamic flow of incompressible fluids. Sri Venkateswara University.

2. Bhatt, P.V. Solutions of field equations of relativity admitting Kerr-type or Nut-type null congruences. Gujarat University.

3. Rastogi, Beero Mal. Hydrodynamic stability of stratified flows. Meerut University.

4. Sharma, Saroj. Some special locally convex spaces and algebras. University of Delhi.

Astrophysics

1. Acharya, Rama. The interaction of intense electromagnetic field with matter. University of Delhi.

2. Dubey, Girish Chandra. Electrical and structural properties of (i) insulating composite films of SiO-B_2O_3 and (ii) single crystal films of germanium. University of Delhi.

3. Kaul, Romesh K. Some studies in dual resonance models with spin degrees of freedom. University of Delhi.

4, Sharma, Mahesh Chandra. Cosmic radio noise absorption measurements and their relevance to physics of ionospheric region. University of Delhi.

Physics

1. Baraut, Subha. The study of the emission spectra of some diatomic halides (iodies of fifth group metal radicals). Vikram University.

2. Deshpande, Padmakar Dattatray. Electrical and magnetic properties of $(Zn\ Mn_1\text{-}x\ Cr_x\ Fe\ O_4)$ spinels. Nagpur University.

3. Gupta, Pravin Chander. Investigation on the elastic properties of some typical binary alloys of copper. University of Indore.

4. Kamble, Vinay Baburao. Spectroscopy of light nuclei with Skyrme-type interactions. M.S. University of Baroda.

5. Khare, Rajendra Prasad. Radioluminescence studies of Ca: Tb: Ce phosphors. University of Saugar.

6. Misra, Rampada. Some aspects of ionospheric absorption. University of Calcutta.

7. Pandya, Subhaschandra Ratilal. Studies on the binding energy of the electron on a dipole field using perturbation technique. M.S. University of Baroda.

8. Sinha, Asok Kumar. Application of uniform sensitivity photon counter in the measurement of number albedo in back scattering for gamma rays. University of Calcutta.

9. Sinha, Parsathi. Electronic energy states in solids. University of Calcutta.

Chemistry

1. Aasddi, Hamida. Chemical studies of doliches biflours, horse-gramseed. Kanpur University.

2. Agrawal, Gopal Kumar. Arylazo-bis-oximes as chelating agents in inorganic analysis. Meerut University.

3. Bandyopadhya, Sankar Prosad. Studies in copper (ii) mixed chalates. University of Burdwan.

4. Chakraborti, Akshay Kumar. The kaolinite-metakaolinite spinel mullite reaction series. University of Calcutta.

5. Chaudhari, Ashok Totaram. Studies on some complexes of rare earths. Nagpur University.

6. Datta, Ajay Kumar. Naturally occuring heterocyclic compounds. University of Calcutta.

7. De, Basudeb. Investigations on the ligand properties of thiophene derivatives in their metal complexes. University of Burdwan.

8. Jana, Tapan Kumar. Fluoro and iodo nitrose complexes of rhenium. University of Calcutta.

9. Latta, Surinder Kumar. Studies in the synthesis of azlactones, cyanine dyes and compounds of pharmacological interest. Awadesh Pratap Singh University.

10. Katiyar, Anuj Kumar. Studies on the interaction of trifluoromazine-hydrochloride 10 (3-dimethylamino propyl) 2-trifluoromethyl—penotiazine hydrochloride with metal ions. Garhwal University.

11. Kawatkar, Sunalini Gurunath. Studies in ligand exchange equilibria at metal chelates. Shivaji University.

12. Kela, Rajendra Kishore. Magnetic and spectral studies of some metal chelates with substituted hydroxycoumarins. Meerut University.

13. Mandal, Ramkrishna. Studies on solubility of clay minerals. University of Calcutta.

14. Mishra, Ram Gopal. Studies of some reactions in N, N-dimethlformamide (DMF). Awadesh Pratap Singh University.

15. Mitra, Arup Kumar. Studies on powder electrode potentials. University of Burdwan.

16. Mohan Rao, J. Studies on complex formation of transition metals with hydroxy acids and phenols. Vikram University.

17. Nagaraj, G. Composition studies of lipohilic constituents of Natu tobacco (indigenous to India) Sri Venkateswara University.

18. Pasarkar, Vijay Raghunath. Synthesis of d.w.-diarylpropane and butane systems. Nagpur University.

19. Poddar, Gurudas. Chemistry of natural products and studies on dichloroacetyl compounds. University of Calcutta.

20 Prajapati, Ashabhai Parsotambhai. Schiff base compounds containing naphthalene nucleus. M.S. University of Baroda.

21. Sarita Rani. Studies on sulphur bearing organic fungicides. Meerut University.

22. Sawhney, Mahendra Pal. Physico-chemical studies on the metal complexes of nitrogen containing ligands especially heterocyclics. Meerut University.

23. Saxena, Girischander. Studies in kinetics and mechanism of reduction of iodine by hydroxylamine and hydrazine in sulphuric and phosphoric acid media. Vikram University.

24. Sehgal, Vinay Kumar. Studies on the chemistry and adhesive properties of isolated lignins from different woods. Meerut University.

25. Sharma, Ramesh Chandra. Mass and transport phenomenon in highly concentrated aqueous electrolyte solutions and molten hydrated salts. University of Delhi.

26. Shinde, Babanrao Mahadeo. Studies in the syntheses of isocyanates and of polymers using isocyanates. Shivaji University.

27. Swaminathan, Bhanumathi V. Mechanism of carbonion reactions: Some condensations of keto-esters. Nagpur University.

Earth Sciences

1. Koppad, Vishwanath Basavantappa. Geology of the area around Belhatti and Bannikoppa, Shirahatti Taluka, Dharwar District, Karnatak State, India. Karnatak University.

2. Trilochan Singh. Stratigraphy and palaeontology of marine permian formation, Siang District, Arunachal Pradesh. University of Delhi.

Engineering & Technology

1. Choudhary, Nityananad. Hydrocracking of Assam crude residuce for the production of kerosene and diesel oils. I.I.T., Kanpur.

2. Dwivedi, J.P. Study of stress distribution on an isotropic sphere developing penny-shaped crack. Bhopal University.

3. Rao, I.V. V.V. energy transfer studies in Co_3—hydrocarbon mixtures using Co_2 laser. I.I.T., Kanpur.

BIOLOGICAL SCIENCES

Anthropology

1. Jayasri. Growth and development of the new-born. University of Calcutta.

Biochemistry

1. Chaudhuri, Sipra. Studies on effects of interesterification of fats on cholesterol metabolism in experimental rats. University of Calcutta.

2. Dharmendra Swarup. Studies on the role of vitamin A and zinc in male gonads. University of Calcutta.

3. Sukumar, Saraswati. Studies on polyamines in tumor progression and regression. Nagpur University.

Botany

1. Barkakati, Anjana. Disease incidence due to certain leafspotting fungi: Analysis of biophysical and biochemical factors. Gauhati University.

2. Chattopadhyay, Arun Kumar. Effect of extracts of polygonum orientale Linn on germination and seedling growth. University of Calcutta.

3. Deshpande, Bhaskar Gopalrao. Embryological studies in the papilionaceae. Nagpur University.

4. Dhaware, Abhimanyu Sukhadeorao. Taxonomic studies in some of the ascomycetes and air-spora over some fields. Marathwada University.

5. Ghoshal, Ashish Kumar. Biochemistry and physiology of resistance mechanism of heartwood of shorea robusta against fungal pathogen. University of Calcutta.

6. Khan, Ahmad Sayeed. Embryological studies in glumiflorae. Nagpur University.

7. Kulshrestha, Veer Bahadur. Cytogenetha, and evolutionary studies in sunflowers, helianthus L and marigolds, tagetes L. Meerut University.

8. Mohamed Sarwar Mohamad Nasir. Fungi on promising medical and aromatic plants growing in India. Marathwada University.

9. Mutsaddi, Hanamesh Bhimrao. Studies on the hypomycetes of Marathwada. Marathwada University.

10. Saxena, Ravi Prakash. Certain aspects of saprophytic fungi in soil: Paraffinolytic, keratinophilic and leaf litter fungi. Gauhati University.

11. Shani, Dilip Kumar. Studies on morphology, cytotaxonomy and X-ray sensitivity on different species of lathyrus. University of Calcutta.

12. Suraiya Begum. Physiology of fungi-II. Marathwada University.

13. Trivedi, Brij Kishore. Ecological studies of some grasslands of Central India. University of Saugar.

Zoology

1. Basu, Gita. Studies on the termite fauna of Southern India. University of Calcutta.

2. Das, Srimanta Kumar. Studies on the systematic survey of the coastal water ichthyofouna of West Bengal. India, with some observations on the biology of a few common food fishes. University of Calcutta.

3. Goomer, Neelam Kumari. Studies on the hormonal changes in the hypothalamo-hypophyseal axis during postnatal development and sexual maturation in the albino rat. University of Delhi.

4. Gupta, Shashi. Studies on diapause in trogoderma granarium everts. University of Delhi.

5. Hooli, Mallikarjun Annappa. Studies on the interrenal and adrenal glands of teleost fishes, frogs and toads. Karnatak University.

6. Ilyas, Rasheeda. Namatode parasites of fishes, amphibia, birds and reptiles of Maharashtra State. Marathwada University.

7. Lalpotu, Prakash Ambadasrao. Observations of some protozoan parasites of invertebrates. Marathwada University.

8. Patil, Prakash Madhavaro. Biological studies on the Archnid hyalomma. Marathwada University.

9. Puranik, Prakash Govindrao. Biology of the reproduc-

(*Continued on page 513*)

Additions to A. I. U. Library

Adiseshiah, Malcolm S. *Three year policy 1975-78*. Madras, University of Madras, 1976. 23p.

——— *University in 1975*. Madras. University of Madras, 1976. 36 p. Asian Conference on Youth Policies, Jakarta, 1973. *Report and working papers.* Jakarta, Ministry of Education and Culture 1973.

Association of Indian Universities, Delhi. *Handbook of rules and regulations for inter university tournaments.* Delhi, Author [c 1977] 172p.

———, *Monograph on internal assessment for universities.* Delhi, Author, 1977. 176p.

———. *Question bank book series.* Delhi, Author, 1977.

01 *Mathematics.* 881p.
02 *Physics.* 413p.
03 *Chemistry.* 769p.
04 *Zoology.* 410p.
05 *Botany.* 421p.
06 *History.* 248p.
07 *Geography.* 321p.
08 *Psychology.* 596p.

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Basic statistics relating to the Indian economy. Bombay, Commerce Research Bureau, 1976.

Chaudhri, D.P. *Effect of farmer's education on agricultural productivity and employment : A case study of Punjab and Haryana States of India 1960-72.* Armidale, University of New England, 1974. 160p.

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India. Directorate of Nonformal Education. *Non-formal education : Preparatory work for the implementation of the scheme for the 15-25 age-group.* Delhi, Author, 1975. 111p.

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Laddha, G.S. *Towards the establishment of the department of space science.* Madras, University of Madras, 1976. v,56p.

Matani, Pushpa. *All India directory of welfare agencies for the deaf.* Delhi, National Institute of Public Cooperation and Child Development, 1975. ii, 228p.

Merriam, Marshal F. *Brain drain study at IIT Kanpur : Opinions and background of faculty and senior staff.* Kanpur, IIT, 1969. 67p.

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Sharma, G.D. *Enrolment in higher education : A trend analysis 1961-75.* Delhi, Association of Indian Universities, 1977. 115p.

Stambler, Moses. *Indian Mysore movement in nonformal university extension adult education, 1933-53.* Connecticut, Author, 1976. 64p.

Tluanga, L N. and others. *Influence of scaling on examination result : A report on a sample analysis of the Matriculation Examination results of 1963.* Gauhati, University of Gauhati, 1964. 15p.

U.K. National Corporation for the Care of Old People. *Old age : A register of social research 1964-72.* London, Author, 1973. 167p.

Unesco. Asian Centre of Educational Innovation for development. *Experiences in educational innovation-Asia : National inventories from nine countries.* Bangkok, Author, 1977. 126p.

Venkataraman, K.N. and others. *Demand for graduates and post-graduates.* Madras, University of Madras, 1976. iv, 42p.

INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY 76
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Advertisement No 890/77

Applications are invited for the faculty positions of Professors, Assistant Professors and Lecturers in the following areas in the various departments of the Institute. Applicants should give an account of their academic and professional record and list of research publications. They should have aptitude for developing courses including courses with interdisciplinary content. A candidate may be considered for a lower position if not found suitable for the post applied for.

Some posts of Lecturers are reserved for the candidates belonging to Scheduled Caste/Scheduled Tribe community.

Professor : Scale of pay Rs. 1500-60-1800-100-2000-125/2-2500

Qualifications and Experience

Applicant should have consistently excellent academic record with Doctorate/Master's degree in the appropriate field from a recognised University/Institute. Minimum 10 years' experience in a responsible capacity in teaching/research/industry. Specialised knowledge in one or more specified fields. Professional/scientific work of outstanding merit and experience of carrying out independent research and guiding research highly desirable.

Assistant Professor : Scale of pay Rs. 1200-50-1300-60-1900

Qualifications and Experience

Applicant should have consistently excellent academic record with Doctorate/Master's degree in the appropriate field from a recognised University/Institute. Minimum 5 years' experience in teaching/research/industry. Specialised knowledge in one or more specified fields. Experience of carrying out independent research and guiding research desirable.

Lecturer : Scale of pay Rs. 700-40-1100-50-1600

Qualifications and Experience

Applicant should have consistently excellent academic record with at least Master's degree in the appropriate field from a recognised University or Institute with not less than two years research or industrial experience. Candidates with industrial experience will be given preference. Doctorate degree desirable.

Departments and Fields of Specialisation

1. Aeronautical Engineering

(i) Aircraft Design (ii) Structures (iii) Aerodynamics (iv) Propulsion (v) Control and (vi) Production.

For the first three fields, a degree in Aeronautical Engineering is required. For other fields, degree in Mechanical or Electrical is also acceptable.

2. Chemical Engineering

(i) Process Plant and Equipment Design including computer aided design (ii) Transport Phenomena preferably with specialisation in Heat Transfer (iii) Ceramic Engg. (iv) Instrumentation and Automation with accent on design and (v) Process Engineering.

Outstanding Chemical Engineers in other fields of specialisation such as Reaction Engineering, Polymers, Petroleum and Petrochemical Engineering, and Biochemical Engineering will also be considered.

3 Civil Engineering*

(i) Geotechnical Engineering including Rock Mechanics Soil Dynamics/Offshore Foundations (ii) Structural Engineering with specialisation in Concrete and Materials Technology/Offshore Structures Structural Dynamics/Shells General Structural Mechanics including Optimization (iii) Hydraulic Engineering with specialisation in Wave Dynamics/Water Resources/Hydrology/General Fluid Mechanics (iv) Transportation Engineering/Urban Engineering (v) Construction Engineering and Management (vi) Airphoto Interpretation Geodesy (vii) Geology with specialisation in Geophysical Prospecting/Micro-paleantology

*Candidates who have applied for faculty positions in Civil Engineering in response to advertisement No. 873/77 issued in March, 1977, need not apply again.

4. Electrical Engineering

For the post of Professor

(i) Solid State Devices (ii) Instrumentation (iii) Power System Protection and Switchgear (iv) Communication Engineering (v) Control and System Theory.

For the posts of Assistant Professor and Lecturer

In addition to above areas (i) Network Theory (ii) Electronics (iii) Electrical Machines and Drives will also be considered.

5. Mechanical Engineering

(i) Industrial Engineering, Human Factors Engineering (Ergonomics), Operations Research (ii) Machine Dynamics and Vibrations (iii) Energy Coversion (iv) Metal Cutting and Machine Tools (v) Welding Engineering (vi) Fluid Power (vii) Refrigeration and Airconditioning (viii) Cryogenics (ix) Thermal Power Engineering (x) Instrumentation & Automatic Control.

6. Metallurgical Engineering

For the post of Professor and Assistant Professor

(i) Ferrous Process Metallurgy with experience preferably in the field of Raw Material preparation, Blast Furnace Technology, Direct Reduction Process etc.

(ii) Physical Metallurgy/Materials Technology with experience preferably in Non-destructive testing and the use of Radio Isotopes in Matallurgy etc.

For the post of Lecturer

(i) Foundry Technology (ii) Extractive Metallurgy (iii) Meterials Technology.

7. Chemistry Department

(i) Fundamental Electrochemistry, Corrosion Science Solid State Electrochemistry/Photo-Electrochemistty (ii) Physical Inorganic Chemistry (iii) Physical Organic Chemistry (iv) Polymer Science

Outstanding candidates in other fields of specialisation will also be considered.

8. Physics Department

New faculty positions are likely to be available mainly in the areas of Experimental Solid State Physics with experience in surface studies using electron microscope or ESCA. Experimental Nuclear and Experimental Semiconductor Physics. Specialisation in theory of Solids will also be considered.

Experimental research work is being carried out in the areas of Solid State Physics, Nuclear Physics, Atomic and Molecular Physics, Magnetic Resonance (ESR and NMR), Mossbauer studies and X-ray Crystallography and Spectroscopy. Theoretical investigations in the areas of Solid State Physics, Nuclear Physics, Particle Physics and Atomic and Molecular Physics are also carried out.

9. Mathematics Department

(i) Statistics and Operations Research (ii) Numerical Analysis and Computer Science (iii) Fluid Mechanics (iv) Pure Mathematics including Functional Analysis (v) Theory of Elasticity.

10. Humanities and Social Sciences

For the post of Assistant Professor and Lecturer

Economics with specialisation in Econometrics and Mathematical Economics, Economic Planning and Development including monetary economics of company finance.

11. Industrial Design Centre

For the post of Professor

Postgraduate Doctoral qualification in Ergonomics or Human Factors Engineering with research interest relating to human factors with different aspects (of Design (aesthetics, function, creativity) of equipment.

For the post of Lecturer

Degree in Ceramic Design or Bachelor's degree in Engineering/Architecture followed by a diploma in Ceramic Design.

12. Interdisciplinary Group

(i) Materials Science (Asst. Professor and Lecturer only)

Good Master's Degree in Materials Science with a Bachelor's degree in Engineering or M.Sc. in Chemistry/

Physics. Ph.D. in Materials Science desirable. Candidates with experience in Electronics Materials will be given preference.

(ii) Industrial Engineering and Operations Research

(Professor and Assistant Professor only)

A good degree in Engineering with Postgraduate qualifications in Management. Specializations in the area of Personnel Management, Production Management and Financial Management are preferred.

The Institute has very good facilities for research with EC-1030 Computer and a well equipped Library. Facilities for experimental research work exist which have recently been augmented through the establishment of a Central Research Facilities Laboratory and a Ragional Sophisticated Instrumentation Centre. Some of the equipment already acquired or being acquired are the following:

Transmission and scanning electron microscopes.
Comprehensive X-ray facilities,
Atomic Absorption Spectrophotometer, NMR,
Liquid Nitrogen Plant,
ESCA/Auger Scanning Spectrometer,
ESR unit, Laser Raman Spectrophotometer,
A 4096 channel pulse height analyser etc.

The posts are permanent and carry allowances such as DA, CCA, HRA as per rules of the Institute which at present correspond to those admissible to Central Government employees stationed at Bombay. Applications should be made on the prescribed form obtainable free of charge from the Registrar of the Institute by sending a self-addressed envelope of 26 cm x 10 cm size. Indian candidates abroad may apply on plain paper in duplicate. Candidates employed in Government Semi-Government organizations or Educational Institute should apply through proper channel. Completed application should reach the Registrar, I.I.T., P.O. I.I.T., Powai, Bombay-400076, by **30th September, 1977**.

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PANJAB UNIVERSITY CHANDIGARH

Advertisement No. 23/77

Applications are invited for the following posts along with postal orders for Rs. 7.50 each, so as to reach the Registrar, Panjab University, Chandigarh, by **30.9.1977.**

1. **Reader in Laws (Labour Law)—One.**
Pay-Scale : Rs. 1200-50-1300-60 1900.
Qualifications
Essential

(i) First or high Second class Master's degree of an Indian University or an equivalent qualification of a foreign University in the field of Labour Laws. The condition of specialisation may be relaxed by the Selection Committee in cases where candidates have standard publications to their credit.

(ii) Either a research degree of doctoral standard in the field of Labour Laws or an equivalent published work of merit.

(iii) About five years' experience of teaching post-graduate classes in law at a University or College level and some experience of guiding research.

Desirable

(i) A post-graduate degree in Business Administration or Commerce or Psychology or Sociology or Economics or Public Administration or Social Work or Diploma in Labour Laws.

(ii) Experience of practice in the field of Labour Laws or experience in an executive or administrative capacity in any Labour Department/Institution/Industrial concern.

2. **Lecturer in Sanskrit (Research) at V.V.B.I.S. & I.S., Hoshiarpur—One**
Pay-scale : Rs. 700-40-1100-50-1600.
Qualifications
Essential

(a) A Doctor's degree or Research work of an equally high standard in Sanskrit; and

(b) Consistently good academic record with 1st or high 2nd class (B in the seven point scale) Master's degree in Sanskrit or an equivalent degree of a foreign University.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of a very high standard, it may relax any of the qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable a person possessing a consistently good academic record (weightage being given to M. Phil. or equivalent degree or research work of quality) may be appointed provided he has done research work for at least two years or has practical experience in a research Laboratory/Organisation on the condition that he will have to obtain a Doctor's degree or give evidence of research work of equivalent high standard within five years of his appointment, failing which he will not be able to earn future increments untill he fulfils these requirements.

Explanations

1. Candidates for being eligible for recruitment to the post of Lecturers must have a 1st or high second class (B in the seven point scale) at the Master's level and for determining consistently good record, average of 50-55% or (B in the seven point scale) may be expected at the two examinations prior to the Master's examination.

The following two examples would illustrate the above:

(i) A candidate who has obtained 52% marks at the Higher Secondary/Pre-University / Intermediate and 58% at the Degree level would have an average of 55% and as such could be considered.

(ii) A candidate who has obtained 60% marks at the Higher Secondary/Pre-University / Intermediate and 50% at the Degree level would have an average of 55% and as such could be considered.

Desirable

1. Vedic language and Grammar as the field of study for the doctoral and master's degree.
2. Five years' experience in collaborative Research or Lexicographical work.
3. Good knowledge of English and French, German or Avestan.

3. **Instructor in Music—One**
Pay-scale : Rs. 500-20-700-25-900.
Qualifications
Essential

1. First or high Second Class Master's degree in Music (Instrumental) from an Indian University or an equivalent qualification of a foreign University in the subject, with ability to perform classical/light and folk music.

Desirable

Good knowledge of handling different musical instruments and capacity to compose individual, group songs and orchestra etc. All rounder person/a professional sitarist will be preferred.

Persons already in service should route their applications through proper channel. Incomplete forms and those received after the due date will not be entertained. Serving employees, may however, send their applications on the prescribed proforma direct to the University. They may route another copy through their Departments. They will be allowed to present themselves for interview on the production of a 'No Objection Certificate' from their employers. Canvassing in any form will disqualify a candidate.

Applications forms can be obtained from the office of the Finance and Development Officer, Panjab University, Chandigarh by making a written request accompanied with self addressed stamped envelope of 23x10 cms.

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PUNJABI UNIVERSITY PATIALA

Advertisement No. 144/SPS/ESTT/77

Applications are invited for appointment to the following posts:

1. **Reader**

One in Religious Studies
(Grade Rs. 1200-50-1300-60-1900)

2. **Lecturers**

One each in the Department of Punjabi* Speech, Drama & Music & Two in Business Management.)
(Grade Rs. 700-40-1100-50-1600)

3. **Research Associates****

One each in the Department of Anthropological Linguistics, Punjabi Literery Studies, Shabad Jor Kosh & Speech, Drama & Music.
(Grade Rs. 700-40-1100-50-1600)

**It is a liened post.

**The designation is yet to be decided finally.

Qualifications

(a) A Doctor's degree or published work of an equally high standard in the relevant subject; and

(b) Consistently good academic record with 1st or high second class (b+) Master's degree in the relevant subject or an equivalent degree of a foreign University.

(c) Qualifications prescribed in (b) above are relaxable in case the research work of the candidate, as evident either from his thesis or from his published work, is of a very high standard. For posts at Sr. Nos. 2 and 3, if a candidate possessing a Doctor's degree or equivalent published work is not available or is not considered suitable, a person possessing consistently good academic record (due weightage being given to M.Phil. or equivalent degree or research work of quality) may be appointed on the condition that he obtains a Doctor's degree or gives evidence of published work of equivalent high standard within five years of his appointment failing which he will not be able to earn future increments until he fulfils these requirements.

(d) At least five years experience of teaching/research for the post of Reader.

(e) Persons with experience of teaching will be preferred for the post of Lecturers.

Area of specialization, experience etc.

Reader in Religious Studies

The qualifications (a) and (b) above should be in Religious Studies/Philosophy/History with specialization in Sikh Religion. Candidates should be able to teach at the M.Litt. level and to guide research. Familiarity with major religious traditions of the world essential. Proficiency in Sanskrit and/or Persian will be an additional qualification.

Lecturer in Punjabi

Specialization in Punjabi Prose/Cultural heritage of Punjab. Three years teaching experience of Post-graduate classes or Hons. Classes in Punjabi would be desirable.

Lecturer in Speech, Drama & Music

The candidates should possess the requisite qualifications as indicated in (a) & (b) above in the subject of Dramatic Arts or Theatre. The candidates with specialization in Stage Craft and Radio Play production will be given preference. Practical experience in production of plays set designing & stage lighting for 2 years will be essential qualifications.

Lecturers in Business Management

(i) Lecturer in Business Policy

The qualifications in (a) and (b) above should be in Business Administration or equivalent qualifications and specialization in organisational behaviour/Business Policy.

(ii) Lecturer in Personnel Management

The qualification in (a) and (b) above should be in Business Administration with specialization in Personnel Management--M.S.W. or any equivalent qualification.

Desirable for (i) and (ii) above

The candidate should have teaching/Research/Industrial experience of at least two years.

Research Associate in Anthropological Linguistics

Specialization in Structural Analysis of Culture.

Literary Studies

Research Associate in Punjabi

The candidate should be well versed in lexicography and must have some practical experience in Lexicography preferably in the compilation of bilingual dictionaries. The candidate must have at least three years' research experience or preparation of literary dictionaries or should have some standard published works of Literary importance to his credit.

Research Associate in Shabad Jor Kosh

Qualifications in (a) & (b) should be in Punjabi.

Desirable

1. Knowledge of Sanskrit/Persian.
2. Some background of Linguistics or proper understanding of Punjabi Grammar.

Research Associate in the Department of Speech, Drama & Music

The qualifications indicated in (a) & (b) above should be in Dramatic Art or English/Punjabi. Preference will be given to those well equipped with the knowledge of Western and Punjabi Theatre and possessing two years teaching experience.

4. **Director (Publication)**

Rs. 700-50-1000/50-1250 (To be revised)

Qualifications

(i) At least Second Class Master's degree of a recognised Indian University or an equivalent qualification from a foreign University.

(ii) At least 7 years' experience in the technique and art of book production, viz. writing, editing and printing etc. and ability to organise the sales of the publications.

(iii) Proficiency in languages particularly English, Hindi and/or Punjabi.

5. **Sub-Divisional Officer (Electrical)**

One.

Grade Rs. 400-30-700/40-1100

Qualifications

At least a B.Sc. (Engg.) (Electrical) from an Indian University or equivalent qualifications from a foreign University or A.M.I.E. (part A & B) Electrical with at least two years practical experience in an internal electrical installations and local distribution.

6. **University Library (Professional (Junior) (Reference Librarian)**

Rs. 400-40-800/50-950

Qualifications

(1) M.A./M.Sc./M.Com. II class with B.Lib. Science II Class or B.A./B.Sc./B.Com. II Class with M.Lib. Science II Class.

(2) At least three years' experience as Reference Assistant in a University Library.

(3) Candidates with experience of Xerographing work will be preferred.

7. **Research Fellow (U.G.C.) in Plant Conservatory (Botany)**

Rs. 500 p.m. (All inclusive)

Qualifications

1st class M.Sc. in the subject of Botany with two years research experience. Persons having experience of undertaking botanical excursions in connection with their research work on wild plants in the field of Cytology and Morphology will be preferred.

8. **Junior Research Fellows (U.G.C.) in the Departments of Botany, Punjabi, Philosophy, Hindi, Defence Studies, Economics, Pol.Sc. & Sanskrit.**

Rs. 400 p.m. all inclusive for first two years and Rs. 500 p.m. all inclusive for subsequent two years.

Qualifications

Junior Research Fellowships is open to persons preferably below the age of 30 years who have at least one years' teaching research experience after obtaining Master's degree in the relevant subject in the first or second class. Provided that in the case of first class M.Sc. the condition of one year's experience may not be insisted upon. Provided further that the condition of one years' research/teaching experience may be relaxed with the sanction of the Vice-Chancellor in the case of 2nd class M.Sc. having at least 55% marks each in B.Sc. and M.Sc. examinations and also where the Selection Committee is satisfied about the research potential of a candidate and no first class M.Sc. is available.

9. **Punjab Historical Studies Department Research Fellowship**

(One) tenable for two years in the first instance @Rs. 400 p.m. (all inclusive).

Qualifications

Candidate should possess at least second class Master's degree in the subject of History with particular reference to Punjab History, with at least one year teaching/research experience after obtaining the Master's degree provided that the condition of experience may be relaxed in the case of first class M.A.'s, provided further that a candidate with at least 55% marks both in B.A. and M.A. could also be considered in case no first class M.A. is available. Preference will be given to a candidate with dissertation in M.A.

General

Higher start within the grade admissible depending upon the ability and experience of the candidate.

House rent and Dearness allowance, Provident Fund and Medical facilities according to University rules.

Applications complete in all respects on the prescribed form accompanied by a crossed postal order worth Rs. 5/- (Rs. 2 for candidates belonging to Scheduled Castes/Tribes and Backward Classes) drawn in favour of the Registrar, Punjabi University, Patiala should reach the University by **24-9-77.** The forms can be had from the Superintendent (Establishment) by sending a self-addressed envelope of the size of 23x10 cms stamped with 25 paise postage.

Persons already in service should apply through proper channel; Govt. servants who are not in a position to submit their applications through proper channel before the due date should submit an advance copy before the due date and regular applications through proper channel by **27-9-77.**

REGISTRAR

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LUCKNOW UNIVERSITY

Advertisement No. 13/1977

Applications are invited for the following posts of Professors in the grade of Rs 1500-60-1800-100-2000-125/2-2500:

1. One Professor of Methematics (post sanctioned under V Plan)
2. One Professor of Hindi

Qualifications

Essential : 1 (a). A doctorate in the subject of study concerned or a published work of a high standard in that subject; and

(b) Consistently good academic record (that is to say, the overall record of all assessments throughout the academic career of a candidate) with first class or high second class (that is to say, with an aggregate of more than 54% marks) Master's degree in the subject concerned or equivalent degree of a foreign University in such subject.

Where the Selection Committee is of the opinion that the research work of a candidate, as evidenced either by his thesis or by his published work, is of a very high standard it may relax any of the qualifications specified in sub-clause (b) of clause 1.

2. Experience of teaching post-graduate classes for not less than seven years and/or having conducted and successfully guided research work for seven years in a recognised Institution and having published work of high standard in the subject concerned.

Preferential : High academic distinctions.

GENERAL

Benefits of Provident Fund available as admissible under the rules on confirmation. Period of probation is one year. It is not necessary to fill any/all of the advertised posts.

Applications on the prescribed form (available on request, accompanied with a self-oddressed envelope of size 23 cm x 10 cm, free of cost, from the office of the Registrar) with recent testimonials, publications etc. should reach the Registrar, Lucknow University, by **Saturday, October 8, 1977.** The candidates who are in service must send their applications through proper channel. Application Forms to outstation candidates will be issued by post upto **Saturday, October 1, 1977.**

B. N. Singh
REGISTRAR

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DIBRUGARH UNIVERSITY
DIBRUGARH

Advertisement No. 7/77

Applications are invited for the following posts :

(1) Professor of English: One post. (Against leave vacancy for one year)
(2) Professor of Commerce : One post.
(3) Lecturer in Assamese : One post.

Scale of pay

Professor : Rs. 1500-60-1800-100-2000-125/2-2500/- (Revised)
Lecturer: Rs. 700-40-1100-50-1600/- (Revised)

All posts carry usual allowances admissible under the University rules in force from time to time and the incumbents will be eligible for Contributory Provident Fund and Gratuity on confirmation as per rules of the University.

Essential Qualification

For Professor : (1) Candidate must be recognised scholars in the subject with Doctor's degree or equivalent published work (2) Continuous research work of merit as evidenced by published papers in standard journals or published work of merit (3) 10 (ten) years' post graduate-teaching or 15 (fifteen) years' Honours teaching experience (4) Experience in guiding and promoting research.

In case of a candidate of exceptional abilities with outstanding research contributions, the requirement of teaching experience may be suitably relaxed.

Essential qualification

For the post of Lecturer : Candidates must possess (a) a Doctor's degree or published work of an equally high standard (b) Consistently good academic record with First or high Second Class (B†) Master's degree in the relevant subject or an equivalent degree of a foreign University.

In the case of a candidate whose research work as evident either from his thesis or from his published work is of a high standard the qualification under (b) may be suitably relaxed.

If a candidate possessing a Doctor's degree or equivalent published work is not available or is not considered suitable, a person possessing a consistently good academic record (due weightage being given to M. Phil or equivalent degree or research work of quality) may be considered for appointment on condition that he will have to obtain a Doctor's degree or give evidence of published work or equivalent high standard within five years of his appointment failing which he will not be able to earn future increments until he fulfils these requirements.

Specialisation required

M.A. in Assamese or English capable to teaching Western Literature through Assamese medium and also having some specialization of modern Assamese Literature or of aesthetics.

Seven copies of applications in plain papers giving full bio-data including (1) Name in full (in block letters) (2) Father's name (3) Date of birth by the Christian era (4) (a) Permanent residence and address (in full) (4) (b) Present address (in full) (5) Present occupation if any and name of employer (6) Present salary drawn (if any) (7) Detailed academic career with mark-sheets and subjects and subjects studies (including Honours) in degree and postgraduate courses from Matriculation/Higher Secondary/High School Leaving Certificate Examination onwards and copies/reprints of research contributions (8) Name and address of two references not related to the candidate together with an application fee of Rs. 5/- (Rupees five) by CROSSED INDIAN POSTAL ORDER drawn in favour of the Registrar, Dibrugurh University should be sent in an inner sealed cover superscribed "Application for the post of (Name of the post applied for) Advertisement No 7/77" enclosed in an outer cover addressed to Shri D.H. Goswami, Registrar, Dibrugarh University, Dibrugarh to reach him not later than **25th Sept, 1977.**

The number of this advertisement and name of the post applied for must be referred to in the application. Persons in employment should apply through proper channel or with a no objection certificate from the present employer.

Candidate will be required to appear at an interview if and when called for. Candidates called for interview for the post of Professor will be given actually T.A. only according to the rules of the University.

D.H. Goswami
REGISTRAR

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ASSOCIATION OF INDIAN UNIVERSITIES, DINDAYAL UPADHYA MARG, NEW DELHI-2

Applications are invited in the prescribed form obtainable from the Secretary on payment of Rs 2/- for the post of Statistician in the pay-scale of Rs. 700-1300 plus allowances. **Qualifications**: **Essential:** Preferably first class postgraduate degree in Statistics with aptitude for research in Economics of Education and/or Examination Reform. **Desirable**: (i) Teaching or research experience in the area of research & development work in examination reform or socio-economic surveys. (ii) Training/experience in computer programming.

Preference will be given to Scheduled Castes/ Scheduled Tribes candidates. Applications should reach the Secretary by **3rd October, 1977.**

UNIVERSITY OF BIHAR
MUZAFFARPUR

Applications are invited in the form given below from Indian Citizens for appointment of Lecturers on temporary basis in Chemistry, Physics, Mathematics, Botany, Zoology, Psychology and Geography in the Bihar University Service in the scale of pay of Rs 700-40-1100-50-1600 plus other allowances as are admissible under the rules.

The candidates should possess a First or High Second Class Master's degree or equivalent degree of a foreign University in the subjcet concerned with consistently good academic record, followed by a Ph.D. or M. Phil. degree.

Provided that in case a candidate with Ph.D. or M. Phil. degree is not available or not found suitable, preference shall be given to a candidate having consistently good academic record, but such a candidate shall have to obtain Ph.D./M.Phil. degree within five years of the date of his appointment, failing which he shall cease to earn any future increment until he fulfils the requirement.

Some posts are reserved for women, scheduled castes and scheduled tribes. If suitable candidates in the aforesaid category are not available, the posts will be treated as un-reserved.

Applications must reach the undersigned latest by the **30th September, 1977**, by 4 P.M. with a Crossed Postal Order of Rs. 10/- for each post.

(To be filled in by the candidate in his own hand.)

1. Application for the post of Lecturer in..

2. Full name and address of the applicant..

3. Date of birth..

4. Father's name..

5. Academic qualifications in the following forms :

Examinations passed and degree obtained	Name of examining Body	Subjects offered specify Hons. or Distinction	Year of passing	Division or Class	Aggregate marks	Percentage of marks
1	2	3	4	5	6	7

6. Details of teaching experience..

7. Details of research experience and publications etc..
....

R. N. Jha
REGISTRAR

PANJAB UNIVERSITY
CHANDIGARH

Advertisement No. 25/77

Applications are invited for the following posts in the Department of Sociology (Under U.G.C Special Assistance Programme) so as to reach the Registrar, Panjab University, Chandigarh by **October 7, 1977** along with postal orders of Rs. 7.50 each:

Posts, Pay-scales and Qualifications

(A) Professor-1 Rs. 1500-60-1800-100-2000-125/2-2500

(Specialisation: Population studies and/or urban Sociology).

(i) First or high second class Master's degree in Sociology of an Indian University or an equivalent qualification of a foreign University, with good academic record.

(ii) Research degree of Doctoral standard or published research work in Sociology of high standard in journals of repute.

(iii) About 10 years experience of teaching post-graduate classes at a University or college level and experience of guiding research.

(B) Readers-3 Rs 1200-50-1300-60-1900

(Specialisation: in one or more of the following fields:

Social Stratification, Social Demography, Quantitative Methods in Sociology).

(i) First or high second class Master's degree of an Indian University or an equivalent qualification of a foreign University, in Sociology, with good academic record.

(ii) Research degree of Doctoral standard or published research work of high standard in journals of repute.

(iii) About five years experience of teaching post-graduate classes at University or College level and experience of guiding research.

(C) Research Associates-2: The position carries the following fixed consolidated emoluments (free of income tax) with no other allowances:

A: Rs. 1000 per month
B: Rs. 1200 per month
C: Rs. 1400 per month

It carries a contingency grant of Rs. 2000 per annum for approved contingent expenditure. The position is tenable initially for a period of three years extendable for another term not exceeding three years.

(i) Ph.D. degree in Sociology and evidence of independent research work.

(ii) Specialisation in the fields of urban and population studies is desirable.

(D) Senior Research Fellowships-2 (Rs. 600 per month tenable for two years but will be awarded for one year in the first instance).

Ph.D. degree with a good academic record.

(E) Junior Research Fellowships-4 (Rs. 400 per month for the first two years and Rs. 500 per month after assessment for the subsequent two years).

Tenable for 1 to 4 years for M.Phil. and Ph.D. studies especially in the field of urban sociology and population studies.

First or high second class Master's degree in Sociology with good academic record

Candidates for the posts of Professor and Readers who do not possess a Doctoral Degree are required to submit 10 typed/cyclostyled copies of brief resume of their research/published work.

Persons already in service should route their application through proper channel. Incomplete forms and those received after the due date will not be entertained. Serving employees may, however, send their applications on the prescribed proforma direct to the University. They may route another copy through their Departments. They will be allowed to present themselves for interview only on the production of a "No Objection Certificate" from their employers. Canvassing in any form will disqualify a candidate.

Application forms can be obtained from the Office of the Finance & Development Officer, Panjab University, Chandigarh, making a written request accompanied with self-addressed stamped envelope of 23 x 10 cms.

UNIVERSITY OF JABALPUR
JABALPUR

No. DSW/77/279 dt. 25th August '77

Advertisement

Applications are invited for the award of following scholarships. The application forms and other particulars can be had from the office of the Dean of Students' Welfare, on any working day.

and should have one years research experience.

For 5th candidate must be Intermediate in Science with Biology having Laboratory experience.

For 4th and 5th the candidates are requested to apply on plain paper with full particulars supported with testimonials.*

Last date for submission of the applications is **30th September, 1977.**

1.	U.G.C. Research Fellowships (Science & Humanities including Social Sciences)	(4+2)	for 4 years Rs. 400/-p.m.+Rs. 1500/- Contingency per annum.
2.	University Fellowships	(8)	for 2 years Rs. 300/- per month
3.	Departmental Fellowships **Subjects** Mathematics, Physics, Hindi, Linguistics, Sociology, Philosophy & Economics	(7)	for 2 years Rs. 400/- per month.
4.	Junior Research Fellowship (Under Research Project in Botany)	(2)	For Plan Period Rs. 400/- per month
5.	Technical Assistant	(1)	Temporary Basis Rs. 250/- per month plus Allowances as per University Rules.

Qualifications

For 1 to 4 candidates must possess the Post-Graduate Degree in 1st Class or 55% of marks or B+ in grade system (for 2 the candidate must be a Post-Graduate of Jabalpur University)

The university reserves the right to consider or reject any application.

* For 1, 2+3 the prescribed forms can be obtained from this office.

B.K. Mishra
ASSISTANT REGISTRAR (ADM.)

BANARAS HINDU UNIVERSITY

Advertisement No. 9/1977-78

Applications are invited for the following faculty positions. Where the number of posts are more than one, it has been mentioned within the brackets in the grades specified below:

Grades

*Professors: Rs. 1500-60-1800-100-2000-125/2-2500.

*Readers: Rs. 1200-50-1300-60-1900.

*Lecturers: Rs 700-40-1100-50-1600.

*Non-Practising allowance admissible only to medical graduates as per rules.

Institute of Medical Sciences

Professors

(1) Anatomy (Neuroanatomy), (2) Physiology (Neurophysiology); (3) Biochemistry (Membrane Biochemistry), (4) Pathology (Immunopathology), (5) Medicine (Cardiology), (6) Medicine (Nephrology), (7) Medicine (Gastroenterology), (8) Medicine (Endocrinology), (9) Surgery (Cardiothoracic Surgery), (10) Surgery (Urology), (11) Surgery (Neurosurgery), (12) Surgery (Paediatric Surgery), (13) Surgery (Plastic Surgery).

Readers

(14) Anatomy (Teratology), (15) Pathology (Cytology), (16) Microbiology (Paracytology), (17) Medicine (Cardiology), (18) Medicine (Neurology), (19) Surgery (Gen. Surgery), (20) Obstetrics & Gynaecology (Social Obstetrics), (21) Radiotherapy (Nuclear Medicine), (22) Psychiatry (Biopsychiatry), (23) Anaesthesiology, (24) Radiology, (25) Paediatrics (Social Paediatrics), (26) Medicine (Gen. Medicine).

Lecturers

(27) Anatomy (two), (28) Biochemistry (Molecular Biochemistry), (29) Pharmacology, (30) Microbiology (two)-Bacteriology for one post and Immunology for the other post), (31) Forensic Medicine, (32) Medicine (Cardiology), (33) Medicine (Nephrology), (34) Medicine (Gastroenterology), (35) Medicine (Endocrinology & Metabolism), (36) Surgery (General Surgery), (37) Orthopaedics, (38) Psychiatry (Two)-Social Psychiatry for one post and Biological Psychiatry for the other post), (39) Radiology, (40) P.S.M.

Qualifications for the Posts of Professors, Readers and Lecturers

Essential

(1) M.B.B.S. or equivalent qualification recognised by the Medical Council of India and must be registered under the State/Central Medical Registration Act. (2) *As detailed below against the subject/speciality. (3)(a) Five years teaching experience as Associate Professor/Reader in the subject/Speciality in a Medical College (for posts of Professors only), (b) Three years teaching experience as Asstt. Professor/Lecturer in the subject/speciality in a Medical College (for posts of Readers only), (c) The requisite recognised Post-Graduate qualification in the subject and three years teaching experience as Tutor/Demonstrator/Resident in the subject/speciality of which one year should be after Post-Graduate qualification (for posts of Lecturers only).

Desirable

(1) Research experience and publication in the subject.

***Essential qualification No. 2—Post-Graduate qualification in the subject/speciality are as follows:**

For Anatomy, Physiology, Biochemistry—M.S./M.D., M.Sc., Ph.D., D.Sc. in the subject.

For Pharmacology—M.D. (Pharmacology or Pharmacology and Therapeutics), M.Sc., Ph.D., D.Sc. in Pharmacology, Experience/Certificate/Diploma in Clinical Pharmacology.

For Pathology—M.D. (Pathology or Pathology and Bacteriology or Pathology with Bacteriology), M.Sc. (Medical Pathology), Ph.D./D.Sc. (Pathology), Speciality Board of Pathology, U.S.A. M.R.C. Path. (Lond.) or M.C.P. (Australia) after examination.

For Microbiology—M.D. (Bacteriology or Microbiology or Bacteriology with Pathology or Pathology and Bacteriology), M.Sc., Ph.D., D.Sc. in Microbiology or Bacteriology.

For Forensic Medicine—M.D. (Forensic Medicine or Pathology), Speciality Board of Pathology, USA.

For Preventive and Social Medicine—M.D. (Soc. & Prev. Med), Speciality Board of Soc. & Prev. Medicine (USA), Dr. P.H. (John Hopkins or Harvard or California); M.D. (Medicine) with D.P.H.

For Obstetrics & Gynaecology—M.D./M.S. (Obst. & Gynaecology), M.D./M.S. Mid. & Gynaecology), M.O., M.R.C.O.G.. Speciality Board of Obst. & Gynaecology (USA).

For General Medicine-M.D. (Med. or Gen. Medicine), M.R.C.P., Speciality Board of Internal Medicine (USA).

For Cardiology—(1) D.M. (Cardiology) or (2) M.D./MRCP in Medicine with 2 years special training in Cardiology.

For Neurology—(1) D.M. (Neurology) or (2) Speciality Board of Psychiatry & Neurology (USA), M.D./M.R.C.P. in Medicine with 2 years special training in Neurology.

For Gastroenterology—(1) D.M. Gastroenterology) or (2) M.D./

M.R.C.P. in Medicine with 2 years special training in Gastroenterology.

For Endocrinology—(1) D.M. (Endocrinology) or (2) M.D./M.R.C.P. in Medicine with 2 years special training in Endocrinology.

For Nephrology—(1) D.M. (Nephrology) or M.D./M.R.C.P. in Medicine with 2 years special training in Nephrology.

For General Surgery—M.S. (Surg. or Gen. Surgery), F.R.C.S., Speciality Board of Surgery (USA).

For Thoracic Surgery—(1) M.Ch. (Thoracic Surgery) or (2) Speciality Board of Thoracic Surgery (U.S.A.), M.S./F.R.C.S. in Surgery with 2 years of special training in Thoracic Surgery.

For Neurosurgery—(1) M.Ch. (Neurosurgery, or (2) Speciality Board of Neurology. Surgery (USA), M.S./F.R.C.S. in surgery with 2 years of special training in Neurosurgery.

For Plastic Surgery—(1) M.Ch. (Plastic Surgery) or (2) Speciality Board of Plastic Surgery (USA), M.S. (Surg./Orth.), F.R.C.S in Surgery with 2 years special training in Plastic Surgery.

For Paediatric Surgery—(1) M.Ch. (Paed. Surgery) or (2) M.S./F.R.C.S. in Surgery with 2 years special training in Paediatric Surgery.

For Urology—(1) M.Ch. (Urology) or (2) Speciality Board of Urology (USA), M.S./FRCS in Surgery with 2 years special training in Urology.

For Radiotherapy (Nuclear Medicine —(1) M.D. Nuclear Medicine/Radiotherapy or (2) M.D./MRCP in Medicine with D.R.M. or 2 years special training in Nuclear Medicine.

For Paediatrics—M.D. (Paed.), Speciality Board of Paediatrics (USA).

For Psychiatry—M.D. (Psych. or Psychol. Med.), Speciality Board of Psychiatry and Neurology (USA), M.D./MRCP in Medicine with Diploma in Psychol. Med.

For Orthopaedics—M.S. (Orth.), M.Ch. (Orth.), Speciality Board of Orth. Surgery (USA).

For Anaesthesiology—M.D./M.S. (Anaesth.), Speciality Board of Anaesthesiology (USA) FFARCS by (examination).

For Radiology—M.D./M.S. (Radiology), Speciality Board of Radiology (USA), F.F.R.

Note

1. Non-Medical teachers in Anatomy, Physiology, Biochemistry, Pharmacology and Microbiology with M.Sc., Ph.D., D.Sc. qualifications in the subject will also be considered.
2. For the Post of Professor of Immunopathology (Sr. No. 4) prescribed qualifications for Microbiology is also applicable.
3. For the post of Lecturer in P.S.M. (Sr. No. 40), the selected candidate will have to serve and stay in rural area.
4. For one of the two posts of Lecturer in Anatomy (Sr. No. 27) research and publications in cytogenetics will be preferred.

41. Professor in Dental Surgery

42. Reader in Dental Surgery

Qualifications Essential

(1) B.D.S. or equivalent qualification recognised by Dental Council of India. (2) M.D.S., F.D.S. or equivalent qualification recognised by Dental Council of India, (3)(a) Teaching experience as Associate Professor/Reader for 5 years in a Medical College or a Dental College (for post No. 41 only). (b) Teaching experience as Lecturer/Asstt. Professor for 3 years in a teaching Institution (for post No 42 only).

Desirable

(1) Research and publications in the subject/speciality. (2) M.B.B.S. Degree.

43. Reader (Health Statistics)

Dept. of P.S.M.

Qualifications Essential

(1) A first or second class Master's Degree in Statistics or equivalent qualification recognised by the University. (2) Three years teaching experience as Asstt. Professor/Lecturer in the subject in a recognised Medical College.

Desirable

(1) Ph.D. in Statistics. (2) Research experience and publications in Health Statistics.

44. Lecturer (Child Psychology)

Dept. of Paediatrics.

Qualifications Essential

(1) A first or second class Master's Degree in Psychology or an equivalent qualification recognised by the University. (2) Three years teaching experience in Clinical Psychology preferably Child Guidance Clinic or a recognised teaching Hospital or Institute.

Desirable

(1) Ph.D. (Clinical Psychology), (2) Research experience and publications in the speciality.

These posts are for the period of **(fifth five year Plan)** but likely to continue. The Benefit of Provident Fund/Pension, Dearness Allowance, House Rent Allowance and City Compensatory Allowance are admissible according to University rules. The retirement age of the Faculty members is 60 years. The appoinrment will be made on two years probation on all permanent posts. Higher starting salary within the grade is admissible to specially qualified and experienced candidates.

Applications for the posts will be entertained on the prescribed form duly supported with a Bank Draft or Crossed Indian Potal Order for Rs 7.50 in favour of the Registrar, Banaras Hindu University towards the application fee. Application forms along with the leaflet of information will be supplied free of cost by the Registrar (Selection Committee Section), Banaras Hindu University, Varanasi-221005 on receipt of Re 0.40 paise stamped self-addressed envelope of 23cm × 10 cm size.

Candidates from abroad applying for the above posts may apply on plain paper but their application should reach the University by the last date, mentioning all the relevant information such as their names, date and place of birth, Marital Status, Nationality, State of Domicile, Postal and Permanent address, Father's Nationality and address, Academic and Professonal attainment, Full details of (a) Publications, (b) Research Projects undertaken, Language(s) known, Visit to foreign countries and the names of at least 2 persons along with the report of the candidate's professional work who should also be requested by the candidates to send to the Registrar (Selection Committee Section), Registrar's Office, Banaras Hindu University, the confidential report concerning the candidate.

Candidates called for interview for these posts will be paid actual second class Railway fare plus reservation charges for sleeper and/or actual Bus fare from the present residence both ways by the shortest route as per University rules. No other expenses will be paid. Candidature of those who are abroad, will be considered in absentia, if so considered necessary.

Application for each post be sent separately alongwith attested copies of certificates in support of the qualifications and experience mentioned in the application and be addressed to the Registrar (Selection Committee Section), Banaras Hindu University, Varanasi-221005, India.

Incomplete application in any respect will not be entertained for consideration.

Those who are in service should apply through proper channel.

For the post of Lecturers, other things being equal preference will be given to Scheduled Castes/Scheduled Tribes candidates who are considered fit.

M.O. or Cheque will not be accepted towards application fee.

The last date for receipt of application is September 30, 1977.

JAMIA MILLIA ISLAMIA
JAMIA NAGAR
NEW DELHI-110025
Advt. No. 11/77-78

Applications on the prescribed form, which can be had from the Registrar's Office on any day (except Sunday and Holiday) between 9.00 a.m. to 12.00 noon or by sending a self addressed and duly stamped (25 paise) envelope of 10 x 23 cms., are invited along with the postal order of Rs. 3/- for the following posts so as to reach the Registrar by 1.00 p.m. on **September 30, 1977.**

Ability to teach in Urdu and Hindi is a desirable qualification for teaching posts and for non-teaching posts the functional knowledge of these languages is essential.

D.A., C.C.A. and H.R.A. will be given as per Jamia rules.

Relaxation in any of the qualifications may be made on the recommendation of the Selection Committee in exceptional cases.

1. One Professor in Education (Grade: Rs. 1500–2500), Teachers' College.

A scholar of eminance. Independent published work of high standard and experience of teaching post-graduate classes. Guiding research for a considerable period desirable.

2. One Reader in Economics, (Grade: Rs. 1200–1900 (temporary likely to be made permanent).

Good academic record with a first or high second class Masters' Degree of an Indian University or an equivalent foreign qualification; a Doctorate Degree or equivalent published work in the subject concerned, and independent published work of a high standard in addition to the published work referred to above and at least 5 years experience of teaching Hons./Post graduate classes or 10 years' experience of teaching undergraduate classes.

3. Five Lecturers (Grade: Rs. 700–1600), one each in Political Science (temporary likely to be made permanent), Chemistry and Mathematics (leave vacancy) and two in English (leave vacancy).

Essential:-Consistently good academic record with a first or high second class (B+) Masters' Degree or an equivalent degree of a foreign University in a relevant subject/subjects.

Having regard to the need for developing inter-disciplinary programme the Masters'/Doctors' degree may be in relevant subject/subjects.

Desirable (in order of preference):–(i) A Doctor's Degree/or Evidence of research work of equivalent standard in the relevant subject (ii) Teaching experience of Degree/Post-Graduate classes.

Provided that if a teacher is not a Ph.D. at the time of his/her appointment and does not qualify himself/herself for the award of a Ph.D. Degree from a recognised University in the subject which is being taught by him/her within the period of five years from the date of his/her appointment or does not give evidence of research work of equal standard within that period in the relevant subject/subjects, he/she shall not be entitled to any future increments after the expiry of the said period of five years till such time he/she fulfils the above mentioned requirements.

4. One Lecturer in Home Science, Grade : Rs. 700-1600 (leave vacancy).

Essential : Consistently good academic record with a first or high second class (B+) Master's degree or an equivalent degree of a foreign University in a relevant subject, and, (ii). At least high second class (B+) Bachelor of Education degree.

Desirable : (i) A Doctor's degree or evidence of research work of equivalent standard in the subject concerned; and, (ii) Two year's experience of teaching at School/Training College.

Provided that if a teacher is not a Ph.D. at the time of his/her appointment and does not qualify himself/herself for the award of Ph. D. Degree from a recognised university in the subject which is being taught by him/her within the period of five years from the date of his/her appointment or does not give evidence of research work of equal standard within that period in the subject concerned he/she shall not be entitled to any future increments after the expiry of the said period of five years till such time he/she fulfils the above mentioned requirements.

5. One Research Assistant (Grade : Rs. 425-640).

(a) A second class Master's degree in Social Work. (b) At least one years' research experience in social surveys, field studies and opinion and attitude studies.

6. Two T.G.T. (Grade : Rs. 440-750) one each in Urdu (permanent), and Science (leave vacancy), Middle School.

T.G.T. Urdu : B.A. (with Urdu as a subject) or its equivalent qualification in Urdu. (ii) A degree or diploma in teaching or 5 years' experience of teaching Urdu in a recognised school.

T.G.T Science : (i) At least a second class degree of a recognised university. (ii) 2 years' experience of teaching in the subject in a recognised High/Hr. Sec. School. A University degree or diploma in teaching desirable.

7. T.G.T. in Commerce (Grade : Rs, 440-750), Hr. Sec, School (temporary likely to be made permanent).

Essential

(i) At least second class graduate degree in Commerce of a recognised university. (ii) A university degree/diploma in teaching.

Desirable : (i) Shorthand & typing in High School & Intermediate/Higher Secondary School as a subject of study or a certificate in Shorthand and typing.

(ii) At least two years' experience in teaching Middle/High School classes of a High/Higher Secondary School

8. Steno-typist (Grade : Rs. 330-560).

Matriculate with proficiency in typing with a speed of about 35 w.p.m. and proficiency in Shorthand with a speed of about 80 w.p.m.

9. Nurse (Grade : Rs. 425-640), Ansari Health Centre,

B.Sc. in Nursing or Diploma from a recognised Institute and at least one year's experience of working in any hospital. Candidates with experience in surgical Obstetrics, Gynaecology ward, and operation theatre are preferred.

Important: Incomplete applications in any form i.e. without attested copies of certificates, degrees, diplomas, mark-sheets, prescribed application fee will not be entertained.

Zamir Hasan
OFFG. REGISTRAR

(Continued from page 505)

tion of the Indian mole rat, Bandicota indic (Bechstein). Nagpur University.

10. Sharma, Bhupendra Nath. Comparative studies on the morphology of Exitianus indicus (Dist) (Homoptora; Jassidae). Awadesh Pratap Singh University.

11. Shirwadker, Shobhana Keshavrao. Studies on physiological ecology of prawn, caridina Rajadhari. Marathwada University.

12. Vaidhya, Deelip Padmakarrao. Studies on some aspects of physiology of indoplanorbis. Marathwada University.

Medical Sciences

1. Gangopadhyay, Sadhana. Studies on the mechanism of anaemia in chronic liver diseases. University of Calcutta.

2. Mukhopadhyay, Nandita. Search for antifertility agents from indigenous medical plants. University of Calcutta.

3. Sur, Rabindranath. Studies on the site and mechanism of action of some centrally acting compounds. University of Calcutta.

Agriculture

1. Bhattacharyya, Rabindra Kumar. Improvement of rice in saline areas of West Bengal State. University of Calcutta.

2. Biswal, Udaya Chand. Aging induced alterations in the structure and function of chloroplasts of detached barely leaves. Jawaharlal Nehru University.

3. Chaubey, Ram Davar. Studies on sheath and leaf blight of paddy caused by Rhizactionia. Sp. Kanpur University.

4. Chaudhry, Brahm Singh. Studies on phenotypic stability in relation to homogenous and heterogeneous populations in wheat, Triticum aestivum L. Meerut University.

5. Daya Ram Singh. Physiological and pathological studies on Pyricularia pennisettic causing leaf spot of bajra, pennisetum typhoide Staph and Hubbard. Kanpur University.

6. Deokar, Ajinath Bhandas. A study of inheritance and genic relationship of characters in pigeon pea, Gajanus cajan (Linn) Millsp. Mahatma Phule Krishi Vidyapeeth.

7. Hari Ram. Studies on mixtures of insecticides. Haryana Agricultural University.

8. Khanna, Brij Mohan. Pathological and epidemiological studies on the leaf blight of wheat caused by Heliminthosporium Spp. Kanpur University.

9. Kripal Singh. Studies on saline sodic soils of U.P. with special reference to Kanpur District. Kanpur University.

10. Panjabi, Bina. Studies on the role of growth inhibiting chemicals. University of Calcutta.

ANDHRA UNIVERSITY

Advertisement No. 3/77

Applications in the prescribed form are invited for the following posts so as to reach the Registrar, Andhra University, Waltair, on or before **1-10-1977**. Each application shall be accompanied by a crossed Indian Postal Order for Rs. 10/- (Rupees ten only) or a Bank Receipt remitting that amount in the State Bank of India to the credit of A.U. General Account (Ordinary) towards the Registration Fee for the application.

	Subject	*Professor*	*Reader*	*No. of posts* *Lecturer*
1.	Law	—	1	1
2.	Space Sciences	—	2	1
3.	English	—	—	2
4.	Education	—	—	1 (Temp.)
5.	Statistics	—	—	1 (Temp.)
6.	Economics	—	—	1+1 (Temp.)
7.	Commerce	1	1	4
8.	Management Studies for M.B.A. Programme	2	—	—
9.	Civil Engineering	—	—	1+1 (Temp.)
10.	Physics	—	—	3
11.	Electronics Engineer		ONE POST	
12.	Electronics Technician		ONE POST	
13.	Junior Research Fellowships (in Humanities and Social Sciences and Sciences)		FOUR	
14.	Junior Research Fellowships (in Botany or Zoology)		ONE	

Note: The rule of reservation for SC/ST/BC candidates is applicable for the posts of Lecturers and for the posts with serial numbers 11 and 12. For Fellowships noted at 13 and 14 the rule of reservation for SC/ST candidates is applicable.

SCALE OF PAY

Professor	Rs. 1,500-60-1,800-100-2,000 Assessment 125/2-2,500
Readers	Rs. 1,200-50-1,300-60-1,900
Lecturers	Rs. 700-40-1-100-50-1,600
Electronics Engineer	Rs. 400-40-800-50-950 (NON-DA MERGED)
Electronics Technician	Rs. 320-14-460-15-580
Junior Research Fellowships	Rs. 400/- per month fixed for the first two years and Rs. 500/- per month thereafter.

The details of qualifications prescribed in respect of each post including the particulars and precise branch of specialisation which is needed and also the preferential qualifications considered desirable will be furnished along with the application form.

Requisition for the application forms may be made to SRI P. HANUMANTHA RAO, DEPUTY REGISTRAR, ANDHRA UNIVERSITY, WALTAIR, accompanied by a self addressed and stamped envelope and a State Bank of India challan or Crossed Indian Postal Order for one Rupee. No application fee and registration fee for Junior Fellowships. The University reserves the right to fill or not to fill all or any of the posts or to fill with persons in the lower cadres if suitable persons are not available for higher cadres. The cover containing the applications should be superscribed as "APPLICATION FOR APPOINTMENT TO THE POST OF ...."

M. Gopalakrishna Reddy
REGISTRAR

Personal

1. Shri Dharma Vira has been nominated as the Chairman of the Board of Governors of the Indian Institute of Technology, New Delhi.

2. Dr. M.S. Swaminathan would be the leader of Indian delegation to U.N. Conference on Desertification. He has also been elected Chairman of the conference.

3. Prof. Y. Nayudamma has been appointed Adviser to Andhra Government on industrial matters. Prof. Nayudamma was Director-General of the Council of Scientific and Industrial Research and is presently in-charge of the Central Leather Research Institute, Madras.

4. Dr. Shib Kumar Mitra has been appointed Director of the National Council of Educational Research and Training.

5. Dr. V.S. Khuspe has been appointed Vice-Chancellor of Marathwada Agricultural University, Parbhani.

6. Dr. R.S. Mithal, Professor and Head of Geology and Geophysics Department has been appointed Vice-Chancellor of University of Roorkee.

7. Shri C. Poulose has been appointed Registrar of Kerala Agricultural University, Trichur.

8. Shri M. Gowri Shankar has been appointed Registrar of Annamalai University, Annamalainagar.

9. Shri Abhay Prakash, Controller of Examinations, has taken over as Registrar of University of Mysore.

10. D. Bhim S. Dahiya has been appointed Registrar of Maharshi Dayanand University, Rohtak.

11. Shri Hukam Singh has been appointed Registrar of Kurukshetra University.

TECHNICAL TEACHERS' TRAINING INSTITUTE

(Southern Region)
Adyar, Madras-20

Advertisement No. EI/3/77

Applications are invited in the prescribed form for the undermentioned post from the qualified candidates.

1. Assistant Professor (Educational Research)

Scale of Pay: Rs. 1100-50-1600.

Qualifications: Essential:

1. Master's Degree in Psychology or Education

   OR

   Master's Degree in Arts/Science with a Degree in Education.
2. Seven years experience in teaching and or research in a recognised teachers' training Institution of degree level or Departments of Education or Psychology in Universities.

Desirable

1. Doctoral Degree in Psychology or Education or proof of independent research of high level.
2. Publication of research papers/monograph/reports.
3. Experience in Technical Education.

2. Age : Below 45 years.

Application form and other details can be had from the Principal of the Institute on requisition with a self-addressed envelope (23 x 9 cms) duly affixed postage stamps of the value of 40 paise. Applications completed in the prescribed form should reach the Principal on or before **30.9.1977**.

PRINCIPAL

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DIBRUGARH UNIVERSITY
DIBRUGARH

Advertisement No. 6/77

Applications are invited for the following posts:

(1) Professor of History: One post.
(2) Professor of Statistics: One post.
(3) Reader in Statistics: Two posts.
(4) Reader in Anthropology: One post.
(5) Reader in Applied Geology: One post.
(6) Reader in Sociology: One post.
(7) Reader in Political Science: One post.
(8) Reader in Education: One post.
(9) Reader in Economics: One post.
(10) Lecturer in Assamese: Two posts.
(11) Lecturer in Anthropology: One post.
(12) Lecturer in History: One post.
(13) Lecturer in Chemistry: One post.

Scales of pay

Professor: Rs. 1500-60-1800-100-2000-125/2-2500/- (Revised)

Reader: **Rs.** 1200-50-1300-60-1900/- (Revised)

Lecturer: Rs. 700-40-1100-50-1600/- (Revised)

All posts carry usual allowances admissible under the University rules in force from time to time and the incumbents will be eligible for Contributory Provident Fund and Gratuity on confirmation as per rules of the University.

Essential Qualification

For Professor: (1) Candidates must be recognised scholars in the subject with Doctor's degree or equivalent published work (2) Continuous research work of merit as evidenced by published papers in standard journals or published work of merit (3) 10 (ten) years post-graduate teaching or 15 (fifteen) years' Honours teaching experience (4) Experience in guiding and promoting research.

In case of a candidate of exceptional abilities with outstanding research contributions, the requirement of teaching experience may be suitably relaxed.

For Readers: Candidates must have (1) A Doctor's degree or published works of an equivalent high standard (2) Consistently good academic record with First or High Second Class (B+) Master's degree in the relevent subject or any equivalent degree of a foreign University, (3) Evidence of continuous research and (4) experience of 5 (five) years' Post-graduate teaching or 8 (eight) years' Honours teaching.

Specialisation required

For the post of Readers in Statistics: Data Processing and Computer Programming/Statistical Inference/Information Theory/Educational Statistics/Stochastic Processess.

For the post of Reader in Anthropology: Physical or Social Anthropology, with research experience in North-East India.

For the post of Readers in Applied Geology: Oil palynology Stratigraphy Sub-surface Geology of oil field regions. At least 5 years field experience.

For the post of Reader in Sociology: Criminology, Penology or Industrial Sociology/Urban Sociology or Social Demography.

For the post of Reader in Political Science: Political Theory.

For the post of Reader in Education: B.T. should be additional qualification. Ability to teach any one of the following method subjects. (i) Sanskrit, (ii) Assamese, (iii) Bengali. Teaching experience in Training College or P.G. level.

For the post of Reader in Economics: Industrial Economics, Economic of Education.

Essential qualification

For the post of Lecturer: Candidates must possess (a) a Doctor's degree or published work of an equally high standard (b) Consistently good academic record with First or High Second Class (B+) Master's degree in the relevant subject or an equivalent degree of a foreign University.

In the case of a candidate whose research work as evident either from his thesis or from his published work is of a high standard, the qualification under (b) may be suitably relaxed.

If a candidate possessing a Doctor's degree or equivalent published work is not available or is not considered suitable, a person possessing a consistently good academic record (due weightage being given to M. Phil or equivalent degree or research work of quality) may be considered for appointment on condition that he will have to obtain a Doctor's degree or give evidence of published work or equivalent high standard within five years of his appointment failing which he will not be able to earn future increments until he fulfils these requirements.

Specialisation required

For the post of Lecturer in Assamese: For the post No. 1, M.A. in Assamese with some specialization in any of the following fields-viz., Theories of Literature/Early Assamese Literature/Modern Assamese Literature/Sanskrit Literature. For the post No. 2: M.A. in Assamese with some specialization in any of the following fields-viz., Principles of Linguistics and Philology/Cultural History of Assam/Grammer and Literature of Middle Indo-Aryan Languages.

For the post of Lecturer in Anthropology: Physical Anthropology. The candidate will have to undertake teaching a course in prehistory.

For the post of Lecturer in History: Ancient or Medieval Indian History.

For the post of Lecturer in Chemistry: Organic Chemistry as special paper in the M.Sc. courses.

Seven copies of applications in plain papers giving full bio-data including (1) Name in full (in block letters) (2) Father's name (3) Date of birth by the Christian era (4) (a) Permanent residence and address (in full) (4) (b) Present address (in full) (5) Present occupation if any and name of employer (6) Present salary drawn (if any) (7) Detailed academic career with mark-sheets and subjects and subjects studies (including Honours) in degree and post-graduate courses from Matriculation/Higher Secondary/High School Leaving Certificate Examination onwards and copies/reprints of research contributions (8) Name and address of two referees not related to the candidate together with an application fee of Rs. 5/- (Rupees five) by CROSSED INDIAN POSTAL ORDER drawn in favour of the Registrar, Dibrugarh University should be sent in an inner sealed cover superscribed "Application for the post of (Name of the post applied for) Advertisement No. 6/77" enclosed in an outer cover addressed to Shri D.H. Goswami, Registrar, Dibrugarh University, Dibrugarh to reach him not later than **25th September, 1977**.

The number of this advertisement and name of the post applied for must be referred to in the application. Persons in employment should apply through proper channel or with a no objection certificate from the present employer.

Candidate will be required to appear at an interview if and when called for. Candidates called for interview for the post of Professor and the Reader will be given actual T.A. only according to the rules of this University.

D.H. Goswami
REGISTRAR

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UNIVERSITY NEWS, SEPTEMBER 16, 1977. Regd. No. R. N. 7180/63 Postal No. D. (C) 534

INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR

Advertisement No. R/20/77

Applications are invited for appointment to various academic positions in the following departments of the Indian Institute of Technology, Kharagpur (West Bengal):

Posts & Scale of Pay

1. **Assistant Professor**: Rs 1200-50-1300-60-1900/- plus D.A. at admissible rates.
2. **Lecturer**: Rs 700-40-1100-50-1600/- plus D.A. at admissible rates.

Age

1. **Assistant Professor**: Preferably between 30 and 45 years.
2. **Lecturer**: Preferably between 25 and 38 years.

Qualifications

1. Assistant Professor

Essential: First class Master's degree or Second class Master's degree with Doctorate degree in appropriate field with a minimum of 5 years' experience in teaching and/or research in an institution of University standard, having specialised knowledge in one or more specified fields.

Desirable: (a) Publication in reputed Journals (b) Experience of carrying out independent research (c) Corporate membership of a recognised professional institution.

2. Lecturer

Essential: First class Master's degree or Second class Master's degree with Doctorate degree in the appropriate branch of study with specialisation in one or more specified subjects with research or industrial experience of not less than 2 years.

I Department of Agricultural Engineering: **Assistant Professor**
Field of specialisation: Master's degree/Doctorate degree should be in Agricultural Engineering.

II Department of Electrical Engineering: **Assistant Professor**

Field of specialisation: Any branch of Electrical Engineering.

III Department of Electronics & Elec. Comm. Engg.: **Assistant Professor**

Field of specialisation: (a) Micro-Electronics (b) Industrial Electronics & Control (c) Computer Technology (d) Communication System.

IV Department of Physics: **Assistant Professor**

Field of specialisation: (a) X-rays and structure of matter (b) Experimental Solid state and Semi Conductor Physics (c) Nuclear and Elementary particle Physics (d) Electrodynamics.

V Department of Chemistry: **Assistant Professor**

Field of specialisation: Organic/Inorganic Chemistry.

VI Department of Mining Engineering: **Assistant Professor**

Field of specialisation: Any branch of Mining Engineering/Mechanical handling.

VII Industrial Management Centre: **Lecturer

Field of specialisation: Financial Management/Marketing Management.

VIII Department of Mathematics: **Lecturer**

Field of specialisation: Any branch of Mathematics/Statistics.

IX Department of Civil Engineering: **Lecturer**—2 posts (one temporary)

Field of specialisation: Public Health Engineering; Highway/Traffic Engineering (for temporary post).

**N.B. Candidates with engineering background will be preferred in the case of Lecturer's post of Industrial Management Centre.

Only capable persons with uniformly good academic career, aptitute for teaching post-graduate and undergraduate classes, research and development work need apply.

Adequate provision for reservation of posts for SC/ST candidates as per Govt. orders has been made. In case suitable candidates from these communities are not available, recruitment will be made from general candidates treating the post as de-reserved.

Application form may be had from the Registrar on request along with an unstamped self-addressed envelope of size 23 cm. x 10 cm. Applications accompanied with an application fee **(non-refundable)** of Rs. 7.50 (Rs 1.87 for SC/ST candidates) payable by means of crossed Indian Postal Order to Indian Institute of Technology, Kharagpur at Kharagpur-2 Post Office should reach the Registrar, I.I.T., Kharagpur (West Bengal) by the **15th October, 1977**.

* * *

THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA

Notification No. 9

Applications are invited for the following posts in the prescribed application forms which will be available along with details of qualifications and specialisation from the undersigned on prepayment of Re. 1/- by Crossed Indian Postal Order separately for each post:

I. Professors of: (1) Environmental Archaeology (2) Hindi (3) Gujarati (4) Botany—Two posts (5) Chemistry (Theoretical Chemistry) (6) Statistics—Two posts of which one is for Operation Research/Econometrics (7) Education (8) Banking and Business Finance (9) Commerce (10) Foods and Nutrition—Two posts (11) Art History (12) Museology (13) Continuing/Adult Education (Temporary).

II. Readers in: (1) English—Two posts (2) Economics of Education (3) History—Two posts (4) Political Science (5) Library Science (Dy. Librarian) (6) Chemistry—Two posts (Physical Organic and Solid State Chemistry) (7) Geology—Three posts (8) Physics—Two posts (Solid State and Experimental Physics) (9) Statistical Service Unit (10) Zoology—Two posts (11) Education—Three posts—One in Mathematics and One in Sociology of Education (12) Educational Administration (13) Clinical Psychology or Industrial Psychology (14) Accounts.

III. Lecturers in: (1) Sanskrit (2) English (3) French (4) Russian (5) Gujarati (6) Hindi (7) Marathi (8) Linguistics—Two posts (9) Sociology—Three posts (10) Persian (11) Archaeology and Ancient History—Two posts (12) Library Science (13) Physics (14) Mathematics (15) Microbiology (16) Lecturer/Research Associate in Nutrition (Temporary) (17) Education—Two posts (18) Educational Administration (19) Accounts—Three posts (Two at **Baroda** and one at the constituent college, **Padra** (20) Business Administration (21) Business Economics at the constituent College, **Padra** (22) Commerce at the constituent College, **Padra** (23) Home Science Education and Extension (Supervisor) (24) Foods and Nutrition—Two posts (25) Clothing and Textiles—Two posts (26) Home Management (27) Continuing Adult Education—Three posts (Temporary).

IV. Taxidermist (Department of Museology—Non-vacation post).

Scales

(i) **Professors**: Rs. 1500-60-1800-100-2000-125/2-2500

(ii) **Readers**: Rs. 1200-50-1300-60-1600-assessment-60-1900

(iii) **Lecturers**: Rs. 700-40-1100-50-1300-assessment-50-1600

(iv) **Research Associate**: Rs. 700-40-900-EB-40-1100-50-1300

(v) **Taxidermist**: Rs. 380-12-440-EB-12-500-EB-15-560.

The applicants at the time of requesting for the prescribed forms should mention very specifically the post for which the forms are required.

The application form should be accompanied by Crossed Indian Postal Order of Rs. 7.50 and should reach the Registrar on or before **10th October, 1977**. Candidates, if called for interview will have to come at their own expenses.

K.A. Amin
REGISTRAR

* * *

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(formerly known as Inter-University Board of India)

University News

A CHRONICLE OF HIGHER EDUCATION & RESEARCH OCTOBER 1, 1977 80 PAISE

- **Medical Education**
- **Education Through Open University**
- **Role of Higher Education in National Development**
- **Working of Semesters in Karnataka**

The Students Health Home, Calcutta celebrated its silver jubilee in September. It provides the largest non-government students health service in the world, catering to the needs of over 1,50,000 students.

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GURU NANAK DEV UNIVERSITY
AMRITSAR

Advertisement No 23/77

Applications are invited for the following posts on prescribed form obtainable (free of cost) from office of the Registrar, Guru Nanak Dev University, Amritsar by making written request accompanied by self-addressed stamped envelope of 23×10 cms. so as to reach this office by **25.10.1977** alongwith crossed Postal Order(s) for Rs. 7.50 for posts at Sr. No. 1 to 3 and Rs. 5/- for posts at Sr. No. 4 & 5 drawn in favour of Registrar, Guru Nanak Dev University, Amritsar. Application fee is not refundable.

Note: Persons already in employment must send their applications through their employer.

Grade (plus allowances as admissible under University rules).

1. Reader in Punjabi Language, Literature & Culture. (Rs. 1200-50-1300-60-1900).
2. Lecturers in (i) Punjabi Language, Literature & Culture Department; (ii) Guru Nanak Studies Department; (iii) Lecturer in Public Administration for Guru Nanak Dev University Evening College, Jullundur (Rs. 700-40-1100-50-1600).
3. Manager University Press (Rs. 400-40-800/50-950).
4. Research Assistant in Punjabi Language, Literature & Culture. (Rs. 300-25-350/25-400-30-610/30-640-40-800).
5. Computors (Rs. 175-5-180-12-300).

Qualifications

For post of Reader in Punjabi Language, Literature & Culture: (i) A Doctor's degree in Linguistics Literature or published work of an equally high standard in these fields. (ii) Consistently good academic record with 1st or High 2nd Class (b+) Master's degree of an Indian University in Punjabi Linguistics/Sanskrit, or an equivalent degree of a foreign University, with the proviso that the candidate having a Master's degree in Punjabi must have a sound knowledge of Linguistics and one who has a Master's degree in Linguistics/Sanskrit must have a sound knowledge of Punjabi, (iii) About 5 years experience of teaching post-graduate classes and/or guiding research.

Essential qualifications for five posts of Lecturers in Punjabi Language, Literature & Culture: (i) A Doctor's degree or published work in the relevant field of an equally high standard; and (ii) Consistently good academic record with first or high second class (b+) Master's degree in the relevant subject or an equivalent degree of a foreign University.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of the qualifications prescribed in (i) and (ii) above.

For the 1st and 2nd posts: Master's degree in Punjabi/Sociology/Anthropology/Fine Arts with the proviso that a candidate having Master's degree in Punjabi must have sound grounding in Punjabi Culture/Folklore and one who is M.A. in Sociology/Anthropology/Fine Arts must have proficiency in Punjabi.

For the 3rd post: Master's degree in Punjabi/English, with the proviso that a candidate having Master's degree in Punjabi must be fully conversant with Western literary criticism and the one who is M.A. in English must have a good knowledge of Punjabi Literary Studies.

For the 4th post: Master's degree in Punjabi with the practical knowledge in the field of editing and reading manuscripts in Gurumukhi and Devnagri Scripts.

For the 5th post: Master's degree in Punjabi/Sanskrit/Linguistics with the proviso that a candidate having Master's degree in Punjabi must have sound knowledge of Linguistics and one who is M.A in Linguistics/Sanskrit must have a good knowledge of Punjabi Language.

For the post of Lecturer in Guru Nanak Studies:

Essential: (i) Consistently good academic record with first or high second class (b+) Master's degree of Indian University or equivalent qualification of foreign University in the subject of Punjabi. (ii) Either the degree of Ph.D. or equivalent research degree or published research work of high standard relating to any field of Sikh Literature. (iii) Thorough knowledge of Sikh Scripture. (iv) Continuing Post-doctoral research in Sikh Literature in case of Ph.Ds.

Desirable: Proficiency in Sanskrit/Persian/Urdu

Note

1. If the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of the qualification prescribed in (i) above.
2. The Lecturer may be required to conduct research and/or teach or do any other related work assigned to him by the Department.
3. Higher salary may be given depending upon qualifications and experience.

For the post of Lecturer in Public Administration: (i) A Doctor's degree or published work of an equally high standard; and (ii) Consistently good academic record with 1st or High 2nd Class (b+) Master's degree in Public Administration or an equivalent degree of a foreign University (iii) Teaching/research experience and knowledge of Punjabi and a foreign language other than English will be additional qualifications.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of the qualification prescribed in (ii) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent published work is not available or is not considered suitable, a person possessing a consistently good academic record (due weightage being given to M.Phil. or equivalent degree or research work of quality) may be appointed on the condition that he will have to obtain a Doctor's degree or give evidence of published work of equivalent high standard within five years of his appointment failing which he will not be able to earn future increments until he fulfils these requirements.

Explanation

Consistently good academic record means overall record of all assessments throughout the academic career leading to Master's degree which should at least be (b+) or high Second Class.

For the post of Manager University Press: (i) Graduate from an Indian University or an equivalent qualifications from a foreign University. (ii) Diploma Course in Printing Technology from a recognised Institution. (iii) At least 5 years' practical experience of working in a first rate printing Press.

Note: Qualifications (i) and (ii) above may be relaxed in case of persons with exceptionally long practical experience.

For the post of Research Assistant in Punjabi Language, Literature & Culture: Consistently good academic record with 1st or High 2nd Class Master's degree in Linguistics and/or Punjabi with the proviso that M.A. in one must have proficiency in the other.

For the posts of Computors: (i) Matric or equivalent with at least two years course in Printing Technology. (ii) Having some experience of press computing in some Government University or reputed press. **Or** Matric or equivalent with four years experience of Press Computing in some Government/Semi-Government University Press.

Lakha Singh Sandhu
REGISTRAR

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Editor : ANJNI KUMAR

The Relevance of Students Health Home in Today's Society

The last twenty-five years have seen many changes in our country and society—some barely discernible, others truly radical. Along with the visible physical transformations there have been, not unexpectedly, noticeable reorientations of our attitudes, beliefs, hopes and prejudices. For, an institution like Students Health Home changes—in the form of expansion of facilities, a new set of workers, infusion of new ideas—has also been inevitable. In this context, it is quite natural to ask the questions: how relevant is an organisation like Students Health Home in today's society?

In trying to answer this question a natural, albeit cynical perspective is that in today's situation institutions like Students Health Home are non-viable.

It is undeniable that self preservation and advancement are the uppermost features of our value system today and where is the room for an institution which is totally based on the concept of collective self-help in this context? Most of our demands, including those made collectively, are geared towards our rather narrow self or sectional interests. An appropriate metaphor for our society today is the boat with a few people in it, trying to fend off many others desperately trying to scamper into the safety of the boat. In this fierce struggle for bare survival where is the time or energy to devote to others and where is the place for institution like Students Health Home?

Needless to say this bleak point of view about the futility or the plain irrelevance of concern for others merely aggravate the existing malaise. Students Health Home is a refutation of such a bleak view; it is an island in a sea of social disintegration. It is a working example of the belief that perhaps we can work collectively, survive together and give a lie to the thesis of inevitable Malthusian doom. It is difficult to imagine that a vast number would share this optimism, and incredibly more so to be able to enthuse others in this kind of perspective. But we cannot escape this onerous task. It is the task of institutions like Students Health Home to emphasise this outlook and hold out a new promise. The extent of success in this direction is a criterion of its relevance.

It has been remarked that the modern age has no heroes. To the young people and the student community today, everyone appears to be trained. This view may have ample justification but this makes it all the more imperative for us to look for something bigger than ourselves, something that would integrate and hold us. Students Health Home in its small way provides such a cohesive alternative to our youth. Maybe just one small alternative; but an alternative nonetheless. In working for it we work for something bigger than our individual selves. We are sometimes touched by the magic of grace.

Many of those involved in the struggle were contributing their energy to constructive schemes in education, social welfare and so on. Building a university, giving shape to a new scheme of education or collective self-helf or building an industry were perceived by most as direct contributions to our endeavour for freedom and national dignity. There was thus a deep and natural, even though unseen, link between Satyagraha on the one hand and setting up of the Viswa Bharati, for instance, on the other. They were all pieces of the same mosaic.

Today that perception appears to be fractured. We do not perceive any link between a clear cut political action to change the

(*Continued on page 523*)

Résumé of a talk given at the inauguration of a short training course for the workers of Students' Health Home, Calcutta.

LIBRARY

Medical Eduction

Problems and Remedies

Tarun Banerjee*

Medical education, besides having professional aspect, has a great social implication. It is nearly a decade or more that public and profession are both unhappy about the state of medical education in West Bengal. The image of a freshly qualified doctor is not only turnished here and abroad, but the public apathy has turned into antipathy. The recent events during the current university examinations in Calcutta has raised the question of the ability of such personnel to look after the health of the community. There is no doubt that the quality of a qualified doctor today is much below the expected standard.

There are many reasons why this standard has gone down. Let us probe into the salient features as would be permissible within this space. This will help us not only to understand the problems but also to formulate a plan to improve the standard.

The State Medical Service broadly comprises of:

(a) Health Service for the public

(b) Medical Education to prepare future doctors

(c) Medical Research for academic achievements and assessment of newer methodology, medicines etc., for clinical application.

At present there is no clear demarcation between these three facets. That this demarcation is absolutely necessary has been long appreciated by progressive countries.

Today, the same Health Directorate is responsible for the running of the teaching institutions with all its highly specialised departments as well as to the working of the primary of subsidiary health centres in a remote village. This responsibility includes from manning a department with medical, para-medical and non-medical personnel to the supply of implements, medicines, diets and all other essentials. This could have been possible at the colonial time with only one medical college and a few district and sub-divisional hospitals. With the collosal expansion of the present health department, it is virtually impossible for a Director of Health Services to do the full justice to all the prevailing needs of the State Health Department. The medical education portion must be separated from the Health Service activity of the Directorate.

There are five teaching institutions under the Calcutta University and one each under the Burdwan and the North Bengal University. A very amusing thing which might be a revealation to many is the fact that the students admission is directed by the Government, the teaching is imparted by the institutions and the examinations are conducted by the university, while the registration is granted for practising by the Medical Council of India.

There is a lack of proper organisational cohesion between activities of these different sections. Complicated procedures of selection leads to the delay in admission which in its turn delays and upsets the teaching schedules of the medical colleges thereby affecting the programme of the university examinations and the vicious cycle of postponement of examination rolls on.

Pitfalls of the present system

On admission: Previously students were admitted on merit. The weightage for scheduled castes and the scheduled tribes are national policy. But to admit on district quota basis is definitely a handicap for the more intelligent students from more competitive areas. A student with lower marks can be admitted from certain districts while a student with higher marks may not succeed if the area he represents is more competitive. To many, this arrangement is beset with more political overlay than the original argument of the upliftment of the backward areas. More so, when we find that after graduation though the admission is on district quota basis—their services are not compulsory to the district concerned. If district quota for admission has to be maintained, it is equally necessary that the advantageously selected candidates should be bound down to serve in their respective districts for a stipulated period of time after graduation.

Another point to consider in the method of admission is the absence of personal interviews during selection for admission. All medical teachers feel that to be a good doctor one must have an aptitude to communicate with the patients. In a selection-interview, the personality, reaction to different circumstances and assessment for two way communication are possible. A doctor, besides being a technician, must have a quality to be useful to the community. This cannot be assessed on paper alone.

Lastly, the procedure of admission unless simplified and orientated with fixed dates—it sets up a problem for the maintenance of the teaching schedule of the medical colleges. Though the teaching schedule is planned to start from the 1st of July every year, the admission by the Central Selection Committee is never on time; as for example this year it will not be complete before the 15th November. The first semester of six months which should have ended in December—will be running behind the schedule. This will ultimately affect the university examination, so the candidate will lose 6 months before he starts his medical course.

A. On Teaching Centres

Since Independence, medical colleges have sprouted up to satisfy popular demands. Even a factory producing inanimate objects require trained technicians and skilled labour. But the medical Colleges were set up without the thought of the availability of properly qualified and experienced teachers.

The different departments were not developed with the emphasis on teaching. The Health Directorate was more concerned with giving service to the sick—for which new hospitals could have been built—but instead more and more beds were cramped in the already congested wards. Today, in some cases it is an apology for a medical care. Can we think of having two to four patients just after confinement kept together on the floor over a common blanket sharing all the blood and the muck following childbirth? We are only in a hurry to discharge them—may be after 24 hours of confinement.

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* *Head of the Department of Obstetrics & Gynaecology,. Calcutta National Medical College.*

By and large all clinical departments are over crowded. There is always a long queue for admission of the cold cases in the outpatient departments. The lack of space is a great handicap. There is so little space to move around that it does not create an atmosphere for the students to learn in the outpatient department nor are there proper facilities for the bedside clinic.

Though in the clinical side there is congestion, at least some facilities are available as the Directorate is geared to the care of the sick. But in the pre-clinical and the paraclinical departments like Anatomy, Physiology, Pathology, Pharmacology etc., where the fundamentals are taught then there is an appalling neglect. Alas, nobody realises that a teaching institution should be fundamentally oriented to teach the medical students while the care of the sick in these places is only an anciliary part of the teaching system.

A recent inspection team of the university visited different medical colleges in the city. The report is still awaiting, but all concerned were unanimous on some basic problems.

1. There is no uniformity of standard. Each college is somehow managing its pre and para-clinical teaching with the lack of space, equipment and personnel. The situation is not at all conducive to attract students to their practical work which is so vital for the professional teaching and training.

2. The whole emphasis of the administration is more on the health service to the patients and peripherally to fulfil the need for the teaching of the medical students.

3. The colleges were originally developed to admit 100 students each year, the facilities in space, equipment and the personnel were as formulated by the Medical Council of India for 100 students. To bring out more doctors now each college in our city admits 150 students in a year. This causes a great strain on all concerned, the teachers and the students alike. At times for the lack of space and facilities some practical classes stand out to be a more demonstration where the students cannot perform the practical work themselves. Will not the students be apathetic to their studies in such chaotic situations? We are lucky that they have not yet lodged a movement for proper facilities for their teaching.

B. Teachers

The present system of transferring one teacher from one college to another as a part of a transferable job of the West Bengal Health Services is again an obsolete and impractical idea which has an all round derogatory effect. It may be interesting to know that the post of the Principal of a particular medical college was occupied by eleven incumbents within a span of seven years. So how can we expect involvement what to speak of dedication?

Not only are the Principals posted for the Directorate but the transference of the teachers from one institution to another always causes a problem. The teachers lose their involvement with the institution. They are constantly worked and worried and feel insecured about their position and waste a lot of time to contact people in the Writers' Buildings for better posting—outwitting a colleague. This attitude must be stopped. Furthermore, the Principal has not only no proper control on the teachers. As his opinion is rarely sought—but for the same reason ability to teach is never properly assessed. The result—the seniority is the best criteria for promotion. The question of non-practising compulsion in certain posts also debars better and more competent personnel to compete in some cases. Moreover, the Government regulation to recognise 3 years service in the rural areas to be equivalent to 1 year teaching is not only farcical but also is unsuccessful to draw more persons to the rural service. As for the preclinical and the paraclinical teachers, due to the lack of incentive or high emoluments, not many persons specialise in these fields The result is a great derth of such teachers. Unless. this problem is looked after properly, we shall very soon face a situation where these departments will not be able to take up their responsibilities.

It is also imperative that the guardians should realise their shares of the problem. They should persuade their wards in taking full advantage of their training and disuading them from accepting unfair means in the examination.

C. Teaching

Within the scope of the curriculum as prescribed by the Calcutta University, the teaching schedule is not uniform, it is not time bound and the lack of space and the teaching personnel gives rise to considerable variation. Because of the lack of uniformity of standard of the teaching facilities, the ultimate training of a student varies, depending on his luck as to where he would be admitted originally. To obviate this, a recent syllabus of the semesterised teaching with a scope of internal assessment has been formulated by the Undergraduate Medical Council of the Calcutta University, it is just being introduced.

D. Students

Somehow, we have not been able to make a medical student realise his responsibility. Unlike a graduate in other fields—where the problem of employment starts after graduation. A medical student knows that he as soon as he graduates he has a source of employment which should make him feel secured. Our State can boast of full employment to our doctors. We have to make them realise that with an assured future they have to take up their studies seriously and make the best use of the facilities available to them to pass on examination by copying or taking advantage of other means will give them a degree but quality-wise they would be useless like a counterfeit coin—already their applications are turned down in many quarters when it is found that they have graduated from the Calcutta University after the year '61.

On University Examinations

The biggest calamity that has brought the state of affairs in the medical education of our province is the postponement of examinations. Today, a five years course requires seven years to appear in the Final M.B.B.S. Examination from the date of admission. There are several reasons which cannot be taken up in detail for want of space, but the postponement of the examinations for whatever reasons encourages demands for further postponement.

The university cannot plan the dates well ahead and it is not oriented to a yearly calendar. The method of working of Controller's Department is responsible to a great extent for late publication of the results which in its turn delays conduction of the subsequent examinations as there must be a definite time internal between publication of the results and the next examination. The Controller's Department have so many examinations to conduct of which the M.B.B.S. is only one of them. So the real difficulties of the medical colleges in completing the course with delayed publication of the results and other facets of the problem are never appreciated. Many a time, problems created due to absence of co-ordination and the lack of liaison between the medical college authorities and the Controller's Department, the problem is for nothing insoluable. Some problems which seem difficult to solve are mere reflections of absence of the co-ordination, the lack of liaison between the medical colleges authorities and the Department of the Controller of Examinations of the university.

On Medical Council of India

The regulations for teaching and the training of the medical students as formulated by the Medical Council of India are still not taken to be mandatory by many. The Medical Council of India sends Inspectors to check the different medical colleges for available facilities for teaching and training of the undergaduate medical students. Either they are soft or pressurised or their strictures are not paid any heed to by the Government. Many of the colleges are though substandard for teaching are not disaffiliated for the sake of the 'poor students'—the result is we produce 'poor doctors' instead.

Remedies

The main problem is fresh orientation. This will call for bringing about a revolutionary change in our outlook and do away with the old obsolete working of the old time bureaucratic methods. A wholesale remodelling of the present structures is essential. A separate Director for the Undergraduate Medical Education at par with the Director of Health Services will have full independence, and answerable only to the Minister is needed. He should be assisted by chosen members of the profession who are long associated with medical teaching. The policy making and the execution of the policy at the highest level of medical education should be left to the medical educationists and not to the medical administrators who are only promoted to higher posts by the seniority at the fag end of their career.

There should be two distinct cadres in the health service. The teacher cadres should start from the lowest grade of higher teaching personnels e.g., starting from the Lecturer to Assistant Professor, Readers, Associate Professors etc. These senior teaching posts should be recruited against individual post by the proper advertisement through proper selection committee on contract basis and not as a part of transferable health service personnel. Their services will be under the Director of Medical Education, whereas the health service personnel from medical officers in different health centres, subdivisional medical offices, D.M.O.'s and C.M.O.'s etc., will be under the supervision of the Directorate of Health Services. For the purpose of training future teachers, the junior teaching jobs like Demonstrators, Clinical Tutors, Resident Surgeons, Registrars and Stipendiary House Staff should also be under the same Director of Health Services.

The different medical colleges should be completely autonomous. The colleges should be governed by the formation of a Governing Body whose Chairman should be the Director of Medical Education and Convener-Secretary should be the Principal of the college. The members should constitute from among the representatives of teachers, staff, students, and people's representatives in the Legislative Assembly.

The Director of Medial Education will have a direct liaison with the university as well as the Medical Council of India. He will see that the college maintains the standards required for teaching and the training of the students.

Each college will have its Principal selected through advertisement by a Special Committee under the Minister concerned and once selected he should be given wide power in the running of the institution with franchise to promote and demote. The post of Principal as Head of the teachers should be separated from that of the Superintendent of the administrative head of the hospital functioning and from day to day health care needs of the patients. A standardisation committee for all the medical colleges should be immediately formed and on the basis of their recommendation necessary remodelling of all the departments of all the colleges should be rationalised as stated above. The Principal of the college will be responsible to make these alterations within a sanctioned period of time, under the guidance of the Governing Body. Once the standardisation has been formulated Governing Body of each college should be provided with a requisite amount of money necessary for the development and the running of the department as a forum of medical teaching as would be envisaged for non-medical teaching colleges.

Once the teachers are selected they will not only be involved with the institution but also will feel secured. Their all round performances will be assessed yearly by the Principal and the special committee of the governing body. Their future contract and promotion will depend on the basis of this record. This will bring a newer attitude which will encourage and give incentive to any individual to prepare him to be a better teacher, to aspire to be the head of the department one day.

With each college having the same standard facilities we shall soon see a new era in which there will be competition between the different colleges and the teachers to give a better training to their students. The medical education will leave the domain of no man's land to become the responsibility of colleges and its teachers. Once the standard facilities are available, and the teachers are selected on merit, at par with the same standard for all the colleges we would require a standard syllabus.

In this connection, it may be mentioned that recently the undergraduate medical council appointed a special syllabus committee. After threadbare discussions, considerable consideration of suggestions and opinions of the teachers in different subjects, a syllabus was formulated. This syllabus isbased on the semesterised system of teaching for a four and a half years' degree course in medicine. The programme is time bound, itemised and standardised as per Medical Council of India to keep in conformity with the all India medical teaching pattern. The syllabus is not only semesterised but also 25% of the theoretical marks are adjusted from the internal assessment of the colleges at the end of each semester. As far as practicable it keeps a constant teaching project involving the teachers and the taught alike. The Principal should be responsible to implement and executive the teaching programme as postulated in the semesterised system.

A fresh thought is neeessary for the system of admission. In our view, barring the weightage of backward tribes and castes, the admission should be on merit, on the result of the examination at the end of "+2" stage from the science stream of the biology group. The short-listed group must appear in a Selection Committee for an interview before a Committee comprising of the Director of medical education, all the Principals of the medical colleges and the peoples representing in the Assembly. Till further all round improvement and reconstruction of the medical colleges are possible a fresh thought to be given for reducing the yearly admissions of students from 150 to 100. We do not know what would be its political repercussion. As the conditions exist today, none of our medical colleges have facilities or personnel to teach even 100 students yearly and definitely no more. There must be suitable provision for hostel accommodation for the students as far as practicable our aim should be on residential teaching. It is an appalling state in which some of the so-called medical students' hostels are functioning. It is a great hardship for students coming from different parts of the province and wandering from door to door for an accommodation. The places which are apologies for hostels are at time not only insanitary and overcrowded but also are unsuitable for use as living purposes—but still there is a huge waiting list as the mofussil students cannot find any accommodation, to stay in the city.

The university should have a separate department for conduction of medical examinations.

The examination dates and the dates for publication of the results should be fixed—as a matter of fact, unless we keep to the schedule, the newly introduced semesterised teaching syllabus cannot be properly implemented. The examinations should be conducted in a business like manner with 50 per cent external examiners from outside the State as recommended by the Medical Council of India. The theoretical examinations should be held in a centre for all students with invigilation by the teachers from all colleges. The oral and the practical examinations must be held in an external centre conducted by external examiners and this should hold same also for the Bankura Sammilani Medical College students. In our view more than 80 per cent of the students are genuinely eager to study and are frustrated to see that the examinations are postponed or disrupted.

If the facilities are standardised and the syllabus is completed and semesterised working is implemented and the university examinations are properly held, the morale of the majority of the students will rise and a few disruptive elements could be easily sorted out. Moreover, in the past decade, disruption of a highly professional examination was possible as the disruptive elements got away with their methods in intimidating students, invigilators and examiners due to protection of politics of getting something in return.

In conclusion we would like to point out that the system of medical education is our State has come to the lowest standard. If this allowed to drift further the society will be deprived of reliable doctors' services in the very near future. This genuine problem can only be solved if the leadership really feels that a change is necessary. There should be complete reorientation of our attitude to medical education. It requires remodelling—the task is tremendous but not unsurmountable. □

The Relevance of Students Health Home in Today's Society

(Continued from page 519)

pattern of things and activities like the students' self-help. But our fractured vision may not necessarily mean that reality is also fragmented. In reality there is live unity.

Students Health Home provides a platform for different kinds of people with different ideologies to work towards a common goal. A radical restructuring of society is obviously not possible without political change, but the change that the Students Health Home is working for is, an endeavour in the same direction. The consciousness, the motivating force is common; the form is different.

Providing quality medical facilities to a large number of students is doubtless an important task. But even more important is the aspect of building a new social conscience. In spite of the physical limitations of its effort, an organisation like Students Health Home is a tentative step forward out of the social cobweb whose strands of primitive self-interest, entangles everybody. This is where basically the relevance of this institution lies. □

Education Through Open University

N. Guruswamy*

The education has changed from its primitive purpose of imparting knowledge for its own sake to a multi-purpose stage. Broadly speaking "education is a three fold process; it imparts knowledge, teaches skills both intellectual and physical and inculcates higher values or value". Another important change that has come over education over the years is that from a single medium, it has passed to a multi-media. While the governments educational policy clearly reflects these two changes, what has been neglected is the failure to view education from a pragmatic and integrated angle. The danger of importing foreign model to Indian conditions has been kept in view by the Governments though no concrete steps have been initiated in this direction. But what has remained awfully neglected is the failure to treat education as an organic whole. There is the dangerous tendency of treating different stages of the evolutionary processes as watertight compartments. The ultimate success of the pyramid depends on the strength of each. It is against this background that an attempt has been made to study what type of open university suits Indian conditions.

The Open University is defined as the University of the 'second chance', offering opportunities to those who had been deprived of them hitherto. Thus in Britain, this was an attempt to set right the balance of the educational opportunities. To Mohan Singh Mehta, the continuing education is the revival of this original social purpose and the efforts of the university to live aloof from the society. Contradicting the sociological foundation of education, it is argued by some that the university is inappropriate institution to try to redress social imbalance in educational opportunity. Initiated by Harold Wilson, the Open University known by different names such as the university of the 'second chance', 'University without walls' is said to be the political child of the labour Government. In U.K., this movement has taken deep roots and spread to other countries in different forms. India is at its initial stages of implementation. We can draw many lessons from the experiences of the other countries.

The case for an open university can be attributed to a few factors among them the dominant being, the belief that the education does not end when one earns a certificate and enters profession. The dominant definition equates education with what happens in schools and colleges and with the time people spend in these buildings. Education in this sense is assumed to stop at the school gates and to enter full time employment. Willburn J. Cohen further emphasises the importance of such process when he says that the "scientific and technological explosion has caused us all to recognise that learning is a continuous, permanant, life-long pursuit. It is a process which commences with birth and only terminates at death and this carried on by others in a never ending continuum."

The open university should start with a new definition and a new purpose. It should move from the old idea of universality of disciplines to universality of people. Instead of the university identifying with a higher tevel of learning should feel that it is a leap sector in the educational sphere responsible for the development of all the lower sectors. A new thinking is necessary to treat education as a system where the success of the system depends on the even and steady growth of every organ.

The university claims to the "University of the second chance" and is trying to offer opportunities to those who have already had the first chance of higher education. It is criticised that if the aim of the open university equalise educational opportunities, it has to identify and provide those who have not had the opportunity of elementary education. The second chance theory may be alright when judged in the context of Britain. But it is meaningless in India where the 70% of the population constitute illiterates on whom depends the success or failure of the nation's progress. It, therefore, calls the educationists to think of a open university which can meet the requirements of the two categories of the population—those who are to be brought into the fold of literates and those who have attained some education but deprived of the chances of further education owing to various reasons. These two areas can be rightly considered as two complementary segments of the open university system, the final success depends on the development of both. The approach should be such that a person after attaining some level of education will be able to get into the higher level without much hinderance. Further there should exist a provision wherein persons will be able to join the regular institutions from the open university to the regular institutions and vice-versa.

A careful planning is necessary at each stage. Along with planning, co-ordination and good understanding among the different sections is also necessary. The open university should be divided into different stages corresponding to the institutions intended for regular students and the responsibility to the extent of each stage should be assigned to these institutions. The university should take the lead role of not only being held responsible for open education at a higher level but for the coordination of lower levels.

Problems of the present Open University

1. At present only conventional courses can be offered where there is a need for vocationally designed courses.
2. An upper age of 25 is stipulated denying the opportunities to these who intend to join the programme.
3. The media like T.V. & Radio are indispensable for the success of the programme. The T.V. in India has not made much progress. The Radio can

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* *Lecturer in Library Science, SV University College.*

be utilised better for this purpose. To make the programmes reach the students, a network of the community radio sets are to be installed at various points. At the organisational level a good understanding should be created between the broadcasting system and the open university agencies.

4. A very important but often neglected aspect of the open university programme is the importance of the libraries. This calls for not only strengthening the existing resources of the libraries attached to the educationalism institutions but building libraries in every part of the country. The neglect of the libraries can mar all the educational efforts. We are at the threshold of education where the dictum is 'learn to learn'. This assumes greater importance with reference to the adult educational programmes. The lack of follow up reading materials, Simoni Malya reports in Courier that each year over 60% of those adults who once knew to read relapse into illiteracy.

Suggested Lines of Action

1. The open university should be organised into two sectors—The adult education and the continuing education. The adult education programmes can be entrusted to the existing elementary schools. Following the line of thinking of Union Education Minister, Dr. Chunder, each teacher should take the responsibility of teaching 5 adults, which in course of a few years will lead to substantial results.
2. Handling of literates is a complex problem calling for not only special techniques of teaching but also needs the tact and specialised training because of the fact that the students came from different social backgrounds. Therefore, it becomes necessary for special institutes, specialised in the methods of adult education, that teaching should be well organised. In a phased programme all the teachers involved in the adult education activity have to be trained in these special skills.
3. Money is the prime mover. The teachers may be given extra remuneration for the extra work but the remuneration should be commensurate with the work.
4. It is desirable that some kind of incentives should be providedto the participants.
5. A separate adult educational cell may be created under the district educational officer.
6. For organisation of the open university at higher levels, the existing resources of the colleges may be fully utilised. The corresponding courses also should be made popular. Care should be taken to see that these courses are moderately chequed. All the educational facilities and concessions now available to the regular students should be extended to those participating in the open university programmes. At this level the university can take the direct responsibility.
7. For the intermediate education, the responsibility can be entrusted to the junior colleges.

If the universal compulsory education becomes the responsibility and reality in course of time, the pressure on adult education programme will ease throwing the additional burden on continuing education. Further a lot of research should precede any programme as contemplated above. The university should take the lead role. ☐

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CONVOCATION

Role of Higher Education in National Development

Dr. P. C. Chunder, Union Minister of Education, Social Welfare and Culture in his convocation address of the Himachal Pradesh University emphasised the importance of the education for the masses. He said that it should be given the highest priority in educational reconstruction. At the same time in the all round reconstruction of education and national development, the importance of higher education and research should not be minimised. It is higher education that trains the high level personnel which we need and which provides the essential leadership in all walks of life. It is research which enables us to exploit our natural resources better and to manage our social affairs more efficiently.

He said that it is often asked why every person should have access to some form of higher education in a "learning society" where life-long education for all is the objective of State policy. In some of the affluent countries of the West where even secondary education has been made universal by providing compulsory education of 10-12 years, higher education is becoming more common and is already available to about one-third to one-half of the young persons. But these cannot be the immediate goals of our policy. Our highest priority is and will continue to be to provide eight years of compulsory elementary education for all; and unless that it realized, even secondary education will continue to be for a few and higher education, for fewer still. At present, the total enrolment in higher education both at the undergraduate and postgraduate stages, is about four per cent of the age-group. The Education Commission was of the view that it could rise to six per cent by 1986. Whether this target is reached or somewhat exceeded, there is no denying the fact that access to higher education in our country will be limited to a few for years to come.

In a situation of this type, the more important question is, not whether higher education should be for the few, but who are the few persons that should have this limited access to higher education. If these were to come from the well-to-do classes of the society only (say the top 20 per cent of the people or so), and if access to higher education depends less upon the talent of the young man and more upon the length of his father's purse, then the system of higher education does become elitist. No one can defend a situation of this type and I am also affraid that in the present educational structure where, out of every 100 children, only 25 complete elementary school and only 10 complete secondary education, the system of higher education is by and large elitist and about 80 per cent of the young persons receiving higher education come from the top 20 per cent of the population. While the charge of elitism levelled against this system is thus true. I do not share the view that we must therefore ignore or neglect or oppose higher education. In my opinion the correct policy should be to change the elitist character of our higher educational system, even when it is meant for the few. This can be done and higher education can cease to be the almost exclusive preserve of the well-to-do if we provide access to it to talented children from all walks of life. We are doing this to some extent already through our schemes of scholarships for talented children and especially through the large scheme of post-matriculation scholarships for the scheduled castes and scheduled tribes. But for these schemes, the bright and talented persons from the weaker sections of the society would never have had access to higher education. What is needed, therefore, is a very large expansion of this programme. We must identify all talented children from all social strata as early as possible and this can easily be done if elementary education becomes universal. We should then strive to see that all talented children, irrespective of caste, social group, or sex, are helped to receive good secondary education through a programme of placement and scholarships and that all talented young persons who show their promise at the end of the secondary stage are also assisted to receive higher education by similar programmes of scholarships and placement. There is every justification for this because talent is a scarce commodity and a national asset; and as the Education Commission observed, every talented child from every social strata should be regarded as a ward of the State and should be provided with the best and highest education. This is also an act of social justice because it helps talented children from the poorer and weaker sections, who would otherwise have been ignored and wasted, to grow to their full potential.

The weaknesses of the present system of higher education can not be minimised, I am extremely conscious of them, and am aware of the fact that the standard of our higher education are far from satisfactory and that the quality of education, which is important at all stages, assumes supreme significance at the university stage. It is obviously useless, or even counter-pruductive, to expand a system of higher education which does not maintain adequate standards and I therefore agree with the view that the priority in higher education should be given to programmes of qualitative improvement. This casts tremendous responsibilities on teachers, students, and the public leadership.

Teachers are the guardians of the 'quality' of education and have the greatest responsibility for maintaining standards. In spite of all the weaknesses of the existing system our teachers have been able to maintaining standards. They have also been able to maintain discipline and an atmosphere of scholarship and pursuit of knowledge around them. However, unless there are many more such teachers, it will not be possible to raise standards in higher education. I would therefore appeal to the teachers in higher education to recognise their responsibility for developing their own professional competence and for doing all they can to promote the competence of the students entrusted to their care.

The students have an equally great responsibility for the maintenance of standards. After all is said and done, standards in education basically depend upon two things: the motivation of students and their willingness to work hard. In the past, for a variety of socio-economic reasons, the motivation of students was very strong and that alone was enough to guarantee a proper maintenance of standards in spite of several handicaps. It is unfortunate that this motivation has somewhat deteriorated in recent years and this is probably a major factor that has led to some deterioration of standards. We will therefore have to see that student motivation is greatly improved in the years ahead. Similarly, we must remember that education is essentially a stretching process and that a student in higher education is expected to work 60 to 80 hours a week throughout the year if standards are to be maintained and if we are to get adequate return for the heavy investment we make therein. This rarely happens in our system at present and a large proportion of our students concentrate on examination guides or likely questions, and study intensively only for a short period before the annual examination. These conditions will have to be substantially changed and a sustained climate of hard work and dedication created in all our institutions of higher education is we desire to raise standards. In both these matters—improving motivation and working hard—the prime responsibility rests on students and they will have to heel themselves to help the nation to grow and prosper.

No less is the responsibility that lies upon public leadership in all walks of life, and especially on the political leadership. It is their responsibility to see that the university system functions smoothly and that the teachers and students are enabled to pursue their studies in peace. It is unfortunate that our university campuses have been very frequently disturbed, that incidents which are unworthy of an academic life often take place in them, and that disquiet and unruly behaviour have become so frequent and endemic in some places as to make regular academic life almost impossible. Such a situation cannot be allowed to go on because it is the very negation of education and a waste of the large investment we make in the system. What we need is a creative peace on the campus, a peace that reflects the purposive involvement of student and teachers in pursuits of abiding value and significance. Such a peace can come only if teachers and students rise to their responsibilities, if they eschew violence and unacademic ways of life, and if they are determined to solve all problems that arise through mutual discussions and through a process of give and take.

Referring to the role of science and technology, Dr. Chunder said that science is the basic force that will help us to modernize our society by dispelling fear, irrational superstition, blind fatalism, and uncritical approaches to personal or social life. Similarly, it is technology, the appropriate technology suited to our needs, conditions and aspirations, and based on the highest development of science, that will help us to increase production, to abolish poverty, to improve health, to spread universal education, to create a learning society, and to provide full access to all for cultural growth. It is true that we are not seeking to create the consumption—oriented Western society which wastes scarce resources and imperils the very future of man. But even in the Gandhian society we will need science and technology, both of an infinitely higher and better order. I would therefore give the emphasis on promotion of science and technology in all our education system, and especially at the university stage.

Science and technology are a force: and like all forces, double-edged and capable of misuse. It is therefore necessary to blend them with the moral and spiritual values in which our tradition is rich. To me, the hall-mark of an Indian intellectual, who is the product of the university system, is not only his scholarship, his rational and scientific temper, or even his commitment to the pursuit of truth and excellence. To me, the equally significant hall-mark of an intellectual is his compassion, his commitment to man, his dedication to serve the people of this country, to abolish poverty, ignorance and ill health from its territory, to assure a decent standard of living for all, and, in the words of Gandhiji, to wipe every tear from every eye. I should judge a person as an 'elite', not so much on the basis of his social origin, as on the basis of his value system and his actions. If one loves his fellowmen and dedicates his life to the abolition of privilege and to the service of the less fortunate, he is not a member of the elite classes, irrespective of the social group in which he may be born. I therefore look upon the system of higher education as one which will provide access to all talent, irrespective of its social origin, and as one which will send out every student as a servant of the masses, rather than as an exploiter. This can be done if the system of higher education is transformed on the basis of our spiritual and moral values of compassion, non-attachment, non-violence, and service which Gandhiji so strongly and consistently advocated.

CAMPUS NEWS

Working of Semesters in Karnataka

(From Our Special Correspondent)

The semester system continues to agitate the students in Karnataka. The decision of the authorities of Bangalore, Mysore and Karnatak Universities to review the working of the system and to grant some concessions has not in any way satisfied the students who want its abolition.

The new Vice-Chancellor of Bangalore University, Mr. T.R. Jayaraman, has issued orders modifying the semester system governing B.A., B.Sc., B.Com. and LL.B. courses. For the academic year 1977-88, according to the amended scheme, there will be only one university examination at the end of the second semester consisting of six papers. The question papers will cover the syllabus taught in both first and second semesters and will be of three hours' duration each. Each paper will carry 200 marks for subjects without practicals. In respect of subjects which have practicals, the theory paper will be for 180 marks and practicals 20 marks. There will be no separate internal assessment marks.

The university has clarified that this is only an ad hoc arrangement pending consideration of the entire issue by the Academic Council which is being convened shortly. This working arrangement has been made only to facilitate smooth conduct of classes and teaching during the first semester. After the Academic Council meets, the actual number of marks for the final examinations as decided by it will be enforced.

The Bangalore University Students' Action Committee is not satisfied with the decision of the authorities. It has again decided to launch an indefinite agitation for the total abolition of the semester system. The first agitation launched two months ago was suspended after a week-long violence and the resignation of the Vice-Chancellor, Dr. H. Narasimhaiah. The committee says the modified system, by which the examination would be held at the end of the second semester, is "impractical and vague". It has urged the Vice-Chancellor to scrap the modified system and introduce the method of teaching which prevailed earlier to the semester system.

The abolition of the semester system has also been demanded by the Karnataka unit of the Akhil Bharatiya Vidyarthi Parishad. In a memorandum given to the Vice-Chancellor of Bangalore University, the Parishad says that the semester system was introduced arbitrarily and without adequate preparation. It wanted the university to appoint a committee consisting of teachers, educationists and others to review the system.

In Karnatak University, the Vice-Chancellor, Dr R.C. Hiremath, has announced that the semester system introduced at the undergraduate level will be made optional. This concession is only for this year and the students have been asked to indicate their preference, either the semester or non-semester pattern of education, immediately. The Vice-Chancellor has made it clear that the option is being given to the students and not to the colleges.

Dr. Hiremath said that the change in policy on semester was made after a round of meetings he had with members of the teaching staff and the review committee appointed by the university to elicit the opinion of students on the system. The feeling among the students, he pointed out, was running high and they did not seem to be in a mood to listen. A decision on the continuance of the semester system could be taken after the tempers had cooled down.

Meanwhile, the review committee of the university under the chairmanship of the vice-chancellor will continue to elicit opinion of students. Workshops are proposed to be held to enlighten students and teachers on the various aspects of the semester system.

The Vice-Chancellor said that the university would prevail upon the University Grants Commission to make liberal grants to strengthen libraries in colleges with a view to catering to the requirements of the semester system. He would get in touch with the Karnataka Government on framing rules on the staff pattern in colleges in tune with the requirements of the semester system.

Already students of Hubli and Dharwar have told the review committee that the university should not impose the semester system on them. Many students have expressed their fear that they may not get a fair deal from teachers who would be entrusted with internal assessment.

Delhi decides to institute M.Phil

The Academic Council of Delhi University recently approved the courses in Physics and Botany for the M.Phil programme. After these have been approved by the Executive Council, the courses will be organised for the next session. The Academic Council also approved the proposal of starting the part-time course in Bachelor of Education in the Central Institute of Education. This course will benefit the teachers who are already in employment and need to have this degree for their further promotions. The date for the commencement of the course will be announced by the authorities shortly. The Council also decided to revive an old scheme of providing scholarship to the postgraduate medical students and decided that the University Grants Commission be requested to release a grant of Rs 96,000 as was done in previous years. If the grant is sanctioned by the Commission the postgraduate medical students of the Patel Chest Institute would be benefited in a big way. The university will also continue its dialogue with the Ministry of Health for the recognition of the postgraduate students of the Patel Chest Institute under the residency scheme which would give them better benefits. The Council also decided to institute two public lectures—one on physical sciences, earth sciences and mathematics, and the other on life sciences, anthropology and psychology. An expenditure of Rs 5,000 was approved for this purpose.

Archaeological museum for Garhwal

The University of Garhwal would soon set up an archaeological museum in the university. A preliminary grant of Rs 35,000 has been provided for this purpose in the current financial year.

Hyderabad institute of wild life

The Central Government has accorded sanction for setting up of a training institute for crocodiles rearing—the first of its kind in the country—at Hyderabad with sufficient financial aid from the United Nations Development Programme. Under the programme, fifteen trainees would be taken from all over the country. Extensive course in crocodile rearing would be conducted. The Advisor to the Food and Agricultural Organisation, Mr D.V. Devos, visited Hyderabad to study the setting up of the All India Institute on Wild Life with assistance from UNDP. He was impressed from the infrastructural facilities available. The Andhra Government has also provided special site adjoining Nehru Zoological Park for this purpose. The institute would be the first of its kind in Asia.

Temporary teachers in Bihar to be confirmed

A meeting of the Vice-Chancellors of the Universities of Bihar was held in Patna. It was recommended that all temporary teachers who had completed two years of service on the 30th June, 1977, should be confirmed and their cases need not be referred to the Service Commission and individual universities. But the concurrence of these two bodies should be obtained separately. It was also suggested that the university statutes be amended accordingly. The meeting further resolved that constitution of the senates should be completed in different universities by 30th of this month and that of syndicates by the middle of October. The meeting was convened by Dr. Sudharshan Prasad Sinha, Deputy Chairman, Inter-University Board of Bihar.

Research scholars in the universities have however voiced their demand that all teaching appointments should be made from amongst those who successfully face the Public Service Commission or the University Service Commission. In a meeting held under the presidentship of Mr. Arvind Kumar Sinha the research scholars felt that it would be a gross injustice to meritorious students if persons with lesser merit bypassed them in securing jobs of lecturers in colleges and universities.

Job bureaus for Karnataka Varsities

Mr. Govind Narain, Chancellor of Karnatak University, said in Dharwar that every university should start an employment information office to keep the students informed of employment opportunities all over the country. He was declaring open the Central Library building in the Karnatak College in Dharwar. The Chancellor suggested that the teachers should start a voluntary service to help students choose subjects for higher studies according to their aptitude and inclination. He said the needs, aspirations and difficulties of the teachers should be given the highest priority by the Government and assured the faculty that he would be happy to remove the grievances of the teachers and the students at all times.

Students in Delhi Academic Council

Four students were elected as members of the Academic Council of Delhi University. They are: Mr. Pradeep Singh Puri, an MA (History) student of Hindu College and Mr. Amarendra Sinha, MA (Political Science) student of Kirori Mal College. The two undergraduate students are: Mr. Shishir Sinha and Mr. Bharat Bhusan.

UGC invites nominations for awards

The University Grants Commission has invited nominations for the following five Hari Om Ashram Trust Awards for the year 1976 from the universities and heads of other teaching or research institutions in the country: 1. Shri C.V. Raman Award for experimental research in physical sciences. 2. Dr. Homi J. Bhabha Award for research in applied sciences. 3. Dr. Meghnad Saha Award for research in theoretical sciences. 4 Sir Jagdish Chandra Bose Award for research in life sciences. 5. Award for contribution in the field of 'Interaction between science including technology and society'.

For these awards contributions by individual scientist or team of workers will be considered. But the work should have been carried out in India. The award will be for outstanding scientific work which has made an important contribution to human knowledge in the specified field. The prize could be shared by two or more persons whose work is of equal merit. The work will cover books, monographs, papers or any other published account of research work, inventions, discoveries etc. which have not already received a similar award from any other agency.

Delhi M.A. in Tamil

The University Grants Commission has permitted the University of Delhi to institute M.A. Course in Tamil in the Department of Modern Indian Languages. The programme would be started from the next academic session.

Priority refixed for P.G. courses

The Karnataka Government has decided to remove the preference given to government doctors in admissions to postgraduate medical courses which they had hitherto enjoyed. Out of the 303 seats in postgraduate medical courses, 158 were to be reserved to in-service doctors and the remaining 145 to others including private doctors. The Government has now decided to determine from the next year onwards the number of doctors it would have to train at the time of the selection of the postgraduate medical admissions and after earmarking those seats, throw open the rest to all people of the State in conformity with the Indian Medical Council and the university regulations.

Mitra's plea for need-based education

Dr S.K. Mitra, Director of the National Council of Educational Research and Training has made a plea for relating education with the socio-economic needs and the life style of people. He regretted that the primary schools, by and large, continued to provide traditional type of education. The changing socio-economic and cultural needs of the country are hardly reflected in the curriculum that operates in the vast majority of schools in our rural and remote areas.

Dr. Mitra was inaugurating a 3-day conference convened to review the progress of the UNICEF assisted projects on the need-based primary and community education, launched in fifteen States in the country. The projects relate to the programmes of curriculum renewal for the weaker section and establishing a close relationship between the school and the community. Dr. Mitra said that in spite of prolonged efforts, the country has not succeeded in bringing cent per cent children in the age group of 6-11 years into the field of primary education. He also referred to the alarming rate of wastage and stagnation at the primary stage. The rate of drop-out up to class five was roughly 60 per cent. In some of the tribal areas, the rate of wastage and stagnation was as high as 92 per cent.

Commonwealth youth centre at Chandigarh

The Chandigarh youth development centre has been functioning for quite some time at Chandigarh. It was established by the Commonwealth Secretariat under the Commonwealth Youth Programme to train key personnel like administrators, organisers and trainers connected with youth welfare and development in the countries of Asia-Pacific region. Two such other centres have been established by the Commonwealth Secretariat. One is located at Lusaka in Zambia and other at Georgetown in Guayana.

Mr. V.R. Reddy, Additional Apprenticeship Adviser to the Government of India in the Ministry of Education has taken over recently as its Director. A new basic course has been designed to provide for institutional training and practical work at the centre. The programmes and courses offered are action-oriented and responsive to the needs of the community. The course will be started in the middle of October and would be attended by forty participants from India, Bangladesh, Sri Lanka, Malaysia, Singapore, Fiji, Australia, New Zealand, Hong Kong and some other commonwealth countries.

Third summer institute for librarians

A summer institute for college librarians was organised at Sri Venkateswara University Library, Tirupati recently. This was the third summer institute sponsored by the University Grants Commission in the field of library science. The earlier ones were conducted by the Delhi University and Karnatak University respectively. As many as 30 librarians from the degree colleges and 20 college librarians attended the institute from privately owned colleges. Prof. Kumbhar of Karnatak University, Dharwar and Prof. P.B. Mangla, Professor of Library Science, Delhi University were the guest speakers. Besides lecturers, group discussions were also organised and the participants were familiarised with the procedures of the library and organisation.

The main topics of discussion were the nature of interpretation of fundamental ideas, principles and practices in light of increasing importance of the library service and current techniques developed in the field. It was more a sort of re-evaluation and re-orientation of the fundamental ideas and exposing the participants to the developments of the latest techniques taking place in the field. Different aspects on book acquisitions, classification and cataloguing, public relations, documentation were discussed. Visits were arranged to the local college and district libraries to acquaint the participants with the working of these institutes.

Delhi to hold paediatrics congress

About 4,000 delegates would be attending the 15th International Congress of Paediatrics to be held in New Delhi from October 23. Dr. O.P. Ghai, Head of the Paediatrics Department, All-India Institute of Medical Sciences is the Secretary-General of the Congress. Five plenary sessions will be held during the 7-day Congress on perspective in paediatrics, malnutrition, diabetes and advances in child care. About 82 symposia have been planned on all aspects of child health in which 350 papers will be presented. There would be about 2,000 delegates and 1,000 observers besides 700 delegates from all over the country. About 250 distinguished scientists have been invited to attend the Congress including a Noble laureate

Dr. Fedric C. Robbins of the USA, Dr. Spidas (USA), Dr. Baum (UK), Dr. Jeuseon (W. Germany), Dr Paul Malvaux (Belgium), Dr J. Money (USA) and Dr. Prader (Zurich) and Dr. Klauz Betke (W. Germany).

West Bengal for correspondence courses

The West Bengal Government is considering a proposal to introduce correspondence courses for higher education in the different universities in the state for the benefit of a large number of students who could not be admitted into the regular classes for various reasons. The Government would also make efforts to bring about a healthy and democratic atmosphere in the education system and rouse consciousness among the common people. In the field of collegiate and technical education the Government is trying to improve the existing facilities rather than going in for further expansion. Fourteen private colleges which had secured affiliation during 1971-74 period on an undertaking that the Government would not be approached for any financial assistance in a specified period had been brought under the grant-in-aid scheme applicable to non-sponsored colleges.

Mr. Sambhu Ghosh, the West Bengal Education Minister, has made a provision for incurring expenditure of Rs. 149.3 crores during the current year. He wants to make education upto standard VI free which would benefit an estimated 4,00,000 children between the age group of 11-14 years. During the year about 1,000 more primary schools, with four teachers each, would be set up mainly in areas which had done, so that 86.9 per cent of the children between the 6-11 age groups could also be covered under this scheme.

Students benefited from vacation projects

The vacation literacy project launched by the college students in Tamilnadu during summer this year benefited more than six thousand adults in nineteen hundred villages. The response from the students was encouraging and the record of achievements was very promising. The Director of Collegiate Education has urged the Principals of colleges during the vacation to contact vacationing students and suggest to them taking up the vacation literacy project under which each student would teach at least one illiterate person. The report received from the various colleges on the implementation of the project indicated that not only did the students find it possible to make a good beginning but were also able to derive satisfaction of having done something worthwhile during the summer vacation. The students established contacts with persons serving as helpers in homes, labourers and neighbours and taught them to read and write. They also taught them fundamental arithmetic, like addition and substraction, and how to send and receive money orders and write letters. The students felt encouraged to continue the campaign during the coming summer vacation also. Some students had also met the expenditure of travelling and cost of stationary. The literacy drive was a novel experiment and many principals and participants had expressed the view that the drive should continue hereafter as an annual feature.

U.N science meet to be held in India during 1979

The United Nations will hold an international conference on science and technology to bring greater exchange of technology between nations and help accelerate the process of economic and social development. The conference would be held in 1979. A key element of the conference will be the presentation of national papers by representatives of participating countries. Many countries have established high level inter-ministerial committees for the preparation of the national papers. The conference secretariat will provide technical advisers to those countries, which require them for the preparation of national papers.

Dr. V.J. Ram, Principal Adviser to the Secretary-General of the conference, paid a visit to India and discussed with Indian representatives the preparation for conference. He held discussions with Dr. A. Ramachandran, Secretary to the Department of Science and Technology, who will be in charge of the Indian preparations for the conference. The conference would draw on recommendations made earlier in specialised conference like the Stockholm Conferenee on Environment, the UN Water Conference and the UN Desertification Conference. The conference is likely to lead to the establishment of a specialised UN body for science and technology with funds for implementation of a global plan of action.

Nehru Literacy Award

The 1977 Nehru Literacy Award has been given to Mr. A.B. Deshpande, former adviser on social education to the Government of India, for promotion of literacy and social education in the country. The other recipients of this award have been—Dr. Welthy Fisher, Mrs. Durgabai Deshmukh and Mr. Avinasalingam Chettiar. The award was instituted in 1968 by the Indian Adult Education Association.

Mr. Deshpande started a mass education society in Amravati, Maharashtra in 1925. He formulated a massive scheme of social and adult education in 1948. He gave social education a form and content as part of the community development project and served as Director of the National Fundamental Education Centre from 1957 to 1960

Revised pattern of rural studies

The South Gujarat University has started a new Master's course in Rural Studies under its Faculty of Rural Studies. The new course aims at training advanced level workers for various types of rural development activities. Students are given both theoretical and practical training in various disciplines of rural life so that they are able to undertake responsible work in their respective areas. The experience of last six years of this new course, is highly encouraging in so far as most of the students with M.R.S. degree having received gainful employment in one or the other organisation in the backward areas. Under the revised programme the first year of the course will be devoted to teaching of basic disciplines and the students would be encouraged to offer advanced courses in rural problems, resource development, research, extension, rural finance and rural industries and trade. There is a provision for project work also. The student can be seconded to other agencies for apprenticeship experience. The Department has also planned extra-mural extension activities and case studies.

Bio-sciences department inaugurated in Surat

The University Grants Commission has accepted the proposal of the University of South Gujarat to develop the existing Postgraduate Department of Botany into a Postgraduate Department of Biosciences. Dr. D. Sankar Narayan, Additional Secretary, University Grants Commission while inaugurating the department and M.Sc. course in Life Science said that for all sided development there was an urgent need for inter-disciplinary growth of biological sciences in the country. He advised the university not to encourage a rigid set up of Bioscience courses. He advised the students to act as watch dogs over the weak points of the courses and asked them to bring them to the notice of the authorities in a most constructive manner.

Prof. R.D. Patel, Vice-Chancellor of the university thanked the UGC for sanctioning grants for the department under the fifth plan period.

P.G. courses at Kakinada and Kurnool

Mr. M.V. Krishna Rao, Minister for Education, Andhra Pradesh, announced in Hyderabad that the State Government would soon start postgraduate courses at Nuzvid, Kakinada and Srikakulam in Andhra University area and at Kurnool and Cuddapah in the Sri Venkateswara University area. He made this announcement while inaugurating state level conference of the Principals of degree colleges. Mr. Rao said that already nine postgraduate centres had been established and by setting up more centres the weaker sections of rural areas would be provided with better facilities to pursue education upto postgraduate level nearer their homes. Referring to the standard of education in Andhra Pradesh he said that the percentage of failure was high in colleges. Even in All India competitive examinations, a few students from Andhra Pradesh had passed. Efforts were therefore required to be made to improve the quality of teaching so that a sizeable number from Andhra Pradesh join the All-India Services. He wanted special attention to be focussed on students coming from backward sections, who are slow learners. Extra coaching classes should be organised to help improve their standards. The Minister advised the Principals not to deal only with academic and administrative problems but also the human problems of students.

P.G. course in science education

The Regional College of Education, Bhopal is instituting postgraduate courses in science education with effect from the current academic session. To start with, the College has invited applications for admission to M.Sc. (Ed) course in Physics which will be an integrated course in teacher education with content equivalent to Master's Degree level in Physics and an orientation to research methodology and pedagogy. These courses are a major breakthrough in the teacher education programmes and are in accordance with the recommendations of the Kothari Commission. This new course will meet the professional needs of qualified science teachers who will be teaching physics in the new pattern of education. Similar courses already exist at the Regional College of Education, Mysore. The candidates, after completing the course, will be competent for apointment as P.G.T.'s at the plus two level and also in teacher education institutions/research institutions/organisations in various capacities. The course will be of two years' duration with reduced vacation.

Relevance of system approach in education

Professor S. Ramani, Head of the Department of Humanities and Social Sciences, Indian Institute of Technology, Madras stressed the need for imparting system thinking even at the secondary school stage while participating in a seminar on Institutional Planning and Management, organised by the State Council of Educational Research and Training. Prof. Ramani said that there is a great need for formal training in the use of the system approach for educational planning. There was need for a total approach to solve the problems of educational technology. He said that every Headmaster or Headmistress was a manager in his or her own right. Hence the need for formal training. The pitfalls into which many manager fell, sometimes unwittingly, were many. Very often they took a narrow view of the problems. This resulted in suboptimisation of the system. The system approach would overcome this shortcoming.

Dr. Anand W.P. Guruge, Education Management Adviser. UNESCO Regional Office for Education in Asia, Bangkok, said that the problems peculiar to this region had been identified and attempts were being made to solve them satisfactorily.

Library & information science education in India

An all-India seminar on Library and Information Science in India is being organised by the Department of Library Science, University of Delhi in the first week of October. The participants to the seminar will include Heads of Departments of Library Science, teachers of library science, eminent librarians and information scientists in the country.

P.M's plea for regional languages as media of instruction

Mr. Morarji Desai, the Prime Minister of India, while speaking at the opening of the newly constructed buildings of Kerala Agricultural University, Trichur emphasised the need for admitting more young students for agricultural courses in colleges so that the knowledge they gained from education could be put to practical use for improving farm production. The scientific knowledge of agriculture gained by such young peasant students should help them produce more foodgrains and that, too, at reduced cost. Mr. Desai said that the medium of instruction in agricultural universities had to be the regional language. To facilitate this, all the languages had to develop and become vehicles for imparting scientific knowledge. He said that agricultural universities should not merely produce gradutes, who went after jobs and better remuneration, but must see to it that agriculturists made use of the trained personnel. For this purpose, more peasants should be admitted for courses in agriculture by these universities. All this is necessary as the agriculture was the basic foundation of the country and unless and until agriculture is enriched and every peasant produces the maximum, the country can never progress and become prosperous. Industries, of course, were necessary, but small and cottage industries had to be given more thrust because they provide more employment opportunities. The Prime Minister regretted that enough attention has not been given to agriculture so far. The country had learnt by experience that they should have proper priorities.

Tamilnadu library association holds seminar at Trichy

A seminar on Inter-Library Cooperation was held at Trichy recently. Librarians from Madurai, Coimbatore, Krishnagiri, Salem, Tanjore and Pudukkottai districts attended it. Mr. Kasirajan was the Director of the seminar. The various aspects of inter-library cooperation were discussed. It was suggested that the district may by taken as a unit for the purpose of inter-library cooperation. The Government should also enlist the services of the librarians and the library associations in the programme of adult education, non-formal education projects. To make inter-library cooperation successful, the University Grants Commission, the universities, the public library systems, the State Government and the Central Government should jointly evolve suitable norms. Suggestions were also made to include library initiation classes for the junior students in the college curriculum and provision should also be made for offering library science as a subject under foundation course as well as an ancillary subject at the degree level. The Government was requested to evolve a standard staff pattern for college libraries and should give the status of teaching staff to the librarians. The desirability of having trained library staff for polytechnics and library education institutions was also stressed.

Special grant for Botany Deptt. of Patna Varsity

The Botany Department of Patna University has been selected under the special assistance programme of the University Grants Commission for the development of a school of cyto-genetics and plant breeding. Dr. R.P. Roy, Jawaharlal Nehru Fellow and one of the leading Botanists of India has been appointed Director of the advance centre. The assistance provided by the Commission to the university would allow the department to expand its activities in diversified fields of genetics with the application of modern methodology on which initiation has already been made. The principal research areas would be on cucurbits including polyploidy, hybridisation and sex expression. In addition to cucurbits the researches on grasses, legumes and ferns would also be pursued with keen interest.

The department has received a sum of Rs. 6.25 lakh and non-recurring grant from the University Grants Commission. The grants include Rupees two lakh for equipment, Rs. 1.5 lakh for extension laboratory, and Rupee one lakh for books. Besides the department has been sanctioned one post of professor and two posts of readers to promote work in special areas of study and multi-disciplinary courses.

Travelling U.G.C. fellowships

The University Grants Commission will create travelling fellowships, special visiting professorships and associateships for creative artists and writers. A committee has been set up to work out the details of this scheme. University Grants Commission will build platforms of activity like exhibitions, cultural festivals, seminars; art-drama-music dance writing workshops and other kinds of group-interconnection projects. These activities, should involve creative artists and writers, both within and outside the university system.

The Commission has decided that the scheme for visiting fellowships and professorship should be extended to cover creative artists and writers to enable them to work at university centres for a period of three months to one year. About twenty such fellowships and professorships could be available in selected centres. Similarly about twenty national associateships should be made available at a time to university academics or outside artists and experts to work at selected university centres.

The national associates will be selected by the University Grants Commission while visiting fellows and professors will be chosen by the university centres themselves, though in consultation with the University Grants Commission.

New cancer cure gadgets

Linear accelerator will be installed at the All-India Institute of

Medical Sciences, New Delhi and at the Cancer Research Institute, Bombay each costing about 80 lakh rupees.

The usual radiation treatment at present available in Indian hospitals is that of cobalt therapy. Radioactive cobalt emits gamma rays which destroy cancerous cells. But the charged particle radiation from the Linear accelerator is said to be more suitable than Gamma rays for treating small localised lesions as accelerator produces a beam of charged particle radiation, such as protons. This method of radiation therapy for cancer patients is now being extensively used abroad. Since the range of Protons in human tissue is accurately known they can be aimed like missiles and made to stop right at the site of Cancer, something not possible with Gamma rays. Charged particles lose most of their energy in the last portion of their journey. Hence the effects of their radiation will be felt by the Cancer cells and only very slightly by other healthy cells on the path of the radiation beam. In effect, the equipment is a miniature atom-smasher used the world over in Nuclear Physics research. While Protons of many million volts energy are producted for Nuclear research, machines used for Cancer treatment accelerate particles to an energy of a few hundred thousand volts. It is called Linear Accelerator because the charged particles are accelerated in a circular machine such as a Cyclotron where the protons move in circles of expanding radius.

While Gamma radiation is the oldest tool in Cancer Therapy, medical scientists in the last fifteed years had been studying the usefulness of other Nuclear particles such as Neutrons, Protons, 'muons' and 'pions'. The last two particles available only from very high energy accelerators, are said to have great potential for Cancer cure. They can be aimed with precision at the cancer site of a millimeter in size. And once they stop inside the target, they produce Mini-Nuclear explosions. The resulting radiation fall out destroys the Cancer cells.

Seminar on responsibilities of teachers

The Punjab Agricultural University Teachers' Association organised a seminar on "Responsibilities of a teacher towards his students". Dr. Amrik Singh Cheema, Vice-Chancellor in his address stressed the importance of teachers as the builders of the nation and pleaded that all respect should be given to them in the society. He said that the teachers should inculcate a sense of dedication and devotion and love for more learning. Regarding the representation of teachers on various decision-making bodies of university, Dr. Cheema said that the University Act was being suitably amended to provide adequate representation to senior faculty members in university decision-making bodies.

Dr. G.S. Sekhon of the College of Agriculture said that the conduct of teachers should be above board. The teachers should not foresake the necessities of the students and their problems should be solved by the teachers through mutual understanding. Dr. R.K. Srivastva of the College of Agricultural Engineering said that the students should be treated like friends. The teachers should not try to intimidate the students. This would create disrespect for the teachers among the students. Personal contacts and social get-together also help to promote the mutual understanding between the teachers and the students. National Service Scheme had proved very beneficial for the students as such activities add to their practical knowledge. Professor Hazara Singh of the College of Basic Science and Humanities said that the teachers should work without any fear from his superiors. They should themselves act upon their preachings and judge their students objectively. There was also a need to change the grading system. Dr. P.N. Verman of the College of Veterinary Science said that the teachers would be failing in their duties if they could not make their students successful and responsible citizens. Mr. Shinderjit Singh, President of the PAUTA said that the teachers should not take part in politics. They should apprise their students of the latest political situation of the country so that they could not be misled at any time by the influence of political parties. Mr. Singh demanded that fair representation should be given to the teachers on the decision-making bodies of the university.

C.S.J.A.'s sports scholarships

Three annual sports scholarships worth Rs. 2,400 have been instituted by the Chandigarh Sports Journalists' Association. Mr. Arun Rai Malhotra, former Delhi State Table Tennis champion, announced the award of a scholarship of Rs. 1200. Mr Amarjit Singh, the renowned athlete, announced another scholarship of Rs 600. The selection of talented boys and girls for these scholarships will be made on the recommendation of a committee to be constituted by the Association. The scholarships could be further extended in case of those making satisfactory progress.

Re-evaluation cell established in Amritsar

Guru Nanak Dev University has introduced the system of re-evaluation of answer books of those wanting their papers to be reassessed in view of their suspicions about the erratic scrutiny by the original examiners. As many as 1600 applications for re-evaluation of their papers have been received this year. The re-evaluation will be conducted by two new examiners from other universities and errors will be rectified accordingly. The university has established a re-evaluation cell for this purpose.

Panjab holds students' council elections peacefully

In pursuance of democratization of the functioning of students' bodies on the campus, the Panjab University authorities decided to hold an opinion poll to decide whether indirect elections to the

Students' Council should be replaced by direct elections. Accordingly, the poll was held on August 19. The results were in favour of direct elections. Votes in favour of direct elections were 1,388 and votes against were 814.

The elections on the campus were completely free from tension, slogans or rowdyism. The campaigns were clean and strictly according to a 14-point code of ethics earlier enunciated by the Dean of Student Welfare.

On September 2 elections to the Students' Council were held. The following were elected office bearers: President: Mr. Bhupinder Paul Singh Khosa (Laws Department), Vice-President : Mr. Anupam Gupta (Laws Deptt.); Secretary : Mr. Jagdip Singh (Psychology Deptt.); Jt. Secretary : Mr. Sushil Mehta (Microbiology Deptt.).

Science academy awards for fourteen scientists

The Council of Indian National Science Academy has announced the medals and awards for 1977 for young scientists. The award includes a cash prize of Rs. 1500 and a research grant of Rs. 5,000 each from the Kothari Scientific and Research Institute, Calcutta to enable the selected scientists to pursue research in their respective fields of specialisation. The presentation of the award will be made at the anniversary general meeting of the Academy during the 65th session of the Indian Science Congress being held in Gujarat University, Ahmedabad in January 1978. The following is the list of the scientists selected for awards : Dr. Ateeq Ahmad, Central Drug Research Institute, Lucknow; Dr. P. Balaram, Indian Institute of Science, Bangalore; Dr. Asha Chandola, Banaras Hindu University; Dr. S.K. Dattagupta, Reactor, Research Centre, Kalpakkam; Dr. S.K. Dubey, All-India Institute of Medical Sciences, New Delhi; Mrs. V.P. Joshi, Bhabha Atomic Research Centre, Bombay; Dr S.C. Kak, Indian Institute of Technology, New Delhi; Dr A.S Raghavendra, Sri Venkateswara University, Tirupti; Dr R. K. S. Rathore, Indian Institute of Technology, Kanpur; Dr. N. M. Singhi, Tata Institute of Fundamental Research, Bombay; Dr H. Singhal, University of Roorkee; Mr A. K. Suri, Bhabha Atomic Research Centre, Bombay, Dr R. C. Sobti, Panjab University, Chandigarh; and Mr. Vijai Kumar, Bhabha Atomic Research Centre, Modular Laboratory, Bombay.

Bihar abolishes posts of PVCs

The Bihar Government has promulgated two ordinances bringing out changes in the governance of six universities in Bihar. These ordinances contain a provision according to which Lalit Narayan Mithila University of Darbhanga will henceforth be known as Mithila University.

Another important change brought through the ordinances is the removal of the post of Pro-Vice-Chancellors in all the six universities. A senior teacher will henceforth look after the duties of a vice-chancellor in his absence.

It may be recalled that the decision to set up a university at Darbhanga was taken in August 1972. It was then named as Mithila University and some colleges affiliated to Bihar and Bhagalpur universities and situated in Purnea, Saharsa and four other districts of Darbhanga division were transferred to the new university which came into existence through an ordinance. Subsequent to the tragic death of Shri L.N. Mishra towards the end of January 1975 to commemorate the services done by him for the north Bihar region, the university was renamed after him.

The present government has found that the Pro-Vice-Chancellors in the state universities were providing a sort of dual administrative system in these universities and hence these posts were not much required.

The ordinances also provide for the posting of I.A.S. officers in these universities as Registrars. Uptil now the registrars were to be appointed by the Bihar Service Commission and these posts were transferable. The ordinances also provide for election of teacher-members of Patna University Syndicate by only those senators who are teachers. All those members of the Syndicates who are not senators can now be made ex-officio members of Senate by the Chancellor. The ordinances have also brought some relief to teachers who were detained or arrested during the emergency. They will now be deemed to have been automatically reinstated and their break in service will be condoned.

Madras approves new courses

The Madras University has decided to allow science graduate teachers to appear privately for postgraduate examinations under certain conditions. This facility will be available from the next year. The university has been eager for quite some time to open the avenues for postgraduate studies for science teachers. They will now have an opportunity to do so. The university will also have a part-time postgraduate diploma course in Maintenance Management, a certificate course in store keeping, a course on practice and procedures relating to law of customs and central excise and commercial taxes and diploma course in rubber technology.

AIU to meet at Rajkot

The 53rd annual meeting of the Association of Indian Universities will be held at Saurashtra University, Rajkot from January 14-16, 1978.

Calcutta holds Symposium on Nuclear Physics

(From Our Special Correspondent)

An international symposium on "Nuclear Physics and Cyclotron Energies", was held at the Variable Energy Cyclotron, Bhabha Atomic Research Centre, Salt Lake, Calcutta. The Chief Minister of West Bengal, Mr. Jyoti Basu inaugurated the symposium.

Mr. Basu said that, the cyclotron had the potential to serve as the nucleus for creative research in the field of nuclear physics, radio-chemistry, bio-physics and medicine. It had also the potential to produce radio-active isotopes for medical use. A demand had been made for a nuclear medicine research unit with radio-isotopes for diagnostic and therapeutic purposes. The Chief Minister promised to discuss it later. He assured State Government help for the growth of the VEC project at Salt Lake. The research activities should be guided by well-defined objectives, so that it could bring good to the people. He suggested utilisation of science and technology for the 'advancement of civilisation and ending of exploitation'.

Dr. R. Ramanna, Director, Bhabha Atomic Research Centre, said that the setting up of the Variable Energy Cyclotron was in itself an important event since "there are only about twenty such machines in the world." While the machine, the building and other facilities cost Rs. 8 crores, Rs. 1 crore had been used for buying items from abroad. He said that a series of experiments had been planned with the Saha Institute of Nuclear Physics and the Tata Institute of Fundamental Research. 'It has always been our desire to stimulate scientific research by scientists in universities and institutes of technology who undertake the major part of teaching in this country.'

Dr. Ramanna said that for India, the project would provide a facility for the study of radiation damage and the production of new isotopes which was not possible in the case of reactors. He felt that there are tremendous possibilities in what can be done with intermediate energies, be it in nuclear reactions, nuclear fission or development of heavy ion acceleration. In fact, the emergence of completely stripped heavy ions is probably going to revolutionise our ideas about the atomic nucleus itself."

Dr. B. D. Nag Choudhuri, Vice-Chancellor, Jawaharlal Nehru University, said that 'technological imperatives guide our action'. The machine set up in Calcutta would help scientists work in the field of nuclear physics. The type of things people visualised had both scientific and technological aspects.

Mr. C. Ambasankaran, project director of the VEC, said that the symposium had been organised in connection with the VEC becoming operational on June 16. He claimed that with the installation of a large "computational facility" the VEC laboratory, would soon be the most advanced nuclear research centre in South-East Asia.

A spokesman. of the project said that it had been planned to get an "external beam" from the machine by the end of the year and the extractor and switching magnet was being installed.

Dr. David L. Hendrie of the University of California, also spoke on the importance of cyclotron energies.

Study of bird migration

Dr. Salim Ali, leading Ornithologist of the country while speaking at a meeting organised by Indian Meteorological Society in Bombay said that great deal of information regarding the migratory birds has also been supplied by the mountaineers who go on expeditions to Himalayas as large scale of migration takes place there. The migration of birds all over the world has brought to light several characteristic for these types of birds.

The process of migration, according to Dr. Salim Ali, was continuing for the last one thousand years in India. The experiment of ringing birds for identification during their arrival in the country was first done by the Maharaja of Dhar in Central India in 1926.

Before migration, these birds put up fat which serves as a source of energy to them. The Bharatpur Bird Sanctuary is the avian abode. Dr. Salim said that Taj Mahal is a man-made wonder but Bharatpur Bird Sanctuary is a natural wonder.

Personal

1. Dr. Bidya Dhar Mishra has assumed charge of the office of the Vice-Chancellor of Utkal University.
2. Dr. Amrik Singh has been appointed Vice-Chancellor of Punjabi University, Patiala.
3. Dr. N.A. Karim, Dean of Students, University of Calicut, has been appointed Pro-Vice-Chancellor of the University of Kerala.

IAAL Elections

Corrigendum

The word "reformed" should be read as "formed" and "revised" should be deleted on page 503 of the September 16, 1977 issue.

THESES OF THE MONTH

A list of Doctoral Theses Accepted by Indian Universities

SOCIAL SCIENCES

Psychology

1. Yardi, Shankar Raghunath. A comparative study of perceptions of structure, roles and functions of trade union by its members, office bearers, government officials and management. M.S. University of Baroda.

Sociology

1. Katkhede, Vinayak Ramchandra. Human relations in an industry. Marathwada University.
2. Santha Kumari, R. Impact of welfare measures on the backward classes in Kerala. University of Kerala.

Political Science

1. Prem Kumari. Problems of municipal finance in U.P. with special reference to Meerut Municipal Board. Meerut University.

Economics

1. Dube, Sushila. Non-wage benefits provided to the workers in cotton textile industry in Madhya Pradesh. University of Saugar.
2. Pathak, Moreshwar Gajanan. Roads and road transportation in Marathwada. Marathwada University.
3. Phukan, Umananda. Socio-economic problems of the ex-tea garden labour population in Assam. Gauhati University.
4. Raj, A. Shankar. A seasonal foodgrain policy model for India. Meerut University.
5. Sanghavi, R.L. Role of industrial estates in the industrial development of Gujarat. Gujarat University.
6. Sharma, Ram Pravesh. Economics of production and pricing of sugarcane in the District of Champaran, Bihar: A region of study of agro-economic set up. Bihar University.

Education

1. Kundley, Madhukar, Balkrishna. A test of literary creativity in Marathi. Nagpur University.
2. Mehta, Anjani Avantilal. Institutional climate as a factor of staff morale and student control ideology in the affiliated colleges of Gujarat University. M.S. University of Baroda.
3. Pande, Manohar Bhaurao. Interest, aptitude and personality factors as predictors of scholastic achievement. Nagpur University.
4. Passi, Bimla Balkrishan. Effect of instructional material and feedback upon the development of the teaching skills of induction and closure. M.S. University of Baroda.
5. Saksenna, Mithlesh. A critical study of Hindi composition of pupils of Std. VIII, IX and X of Hindi medium schools of Greater Bombay, with a view of improving their written composition. S.N.D.T. Women's University.

Commerce

1. Amte, Vasudeo Keshavrao. State trading in foodgrains in Maharashtra State. Shivaji University.
2. Pandya, Harshvadan Janmetram. Gujarat-na khand udyogni nafakarakta-na valano. Sardar Patel University.
3. Shrivastava, Narayan Prasad. Jabalpur sambhag mein jiwan bima vyavsaya 1956 ke pashchat. University of Saugar.

HUMANITIES

Philosophy

1. Deenammal, Ontimetra. Ideology and education. Andhra University.
2. Rai, Moti Bir. Kant's philosophy of mathematics. University of Calcutta.

Linguistics

1. Shaw, Rameswar. A comparative study in the phonological system of Bengali and German. University of Calcutta.
2. Thakur Dass. Position of Eastern Hindi-Bihari dialects in Indo-Aryan: A study in language relationship. University of Delhi.
3. Usham Chetan Singh. Structural analysis of the Manipuri language. Gauhati University.

Fine Arts

1. Pande, Kamlesh Dutt. Bharatiya chitrakala mein nari chitran 1300 isvi tak. Meerut University.

Literature

English

1. Harcharan Singh. George Eliot's conception of the tragic. University of Delhi.
2. Patnaik, Bibudhendra Narayan. Complementation in Oriya and English. Central Institute of English and Foreign Languages, Hyderabad.
3. Ramachandra Rao, Karanam. The fiction of Raja Rao. Marathwada University.

Sanskrit

1. Jha, Sashi Nath. Mithilaya vyakaran prahayon paramparayam mahavyakranan Dinbandhu. Kameshwar Singh Darbhanga Sanskrit University.
2. Kalkonde, Sulabha Gangadharrao. Dayvibhagavreel vigyaneshwar ani yimatvahan yanchayimattancha tolnik abhyagar. Nagpur University.
3. Kulkarni, Roopa Krishnarao. Prachin ani avarchin Sanskrit stotra sahitya. Nagpur University.
4. Mishra, Padamnam. Pananiya vyakaranon pracheenvercheenmatyo sadhushabdanam swarupave. Kameshwar Singh Darbhanga Sanskrit University.
5. Pandey, Umesh Dutta. Rigveda ka kavya shastriya mulyankan. Bihar University.
6. Sharma, Laxmi Narayana. Shri Bhagwat Gita ke bhashyon ka adhyayan. Jiwaji University.
7. Sharma, Vachspati Tripathi. Pracheen Bharat kee dand vyavastha. Kameshwar Singh Darbhanga Sanskrit University.
8. Tripathi, Ravi Nandan. Vyagog rupak ka vikas. University of Saugar.

Hindi

1. Chaurasia, Nathoo Ram. Bundelkhand ka lok kavi Issuri: Jiwan or sahitya. Awadesh Pratap Singh University.
2. Dabral, Vinay Kumar. Moula Ram Tanwer: Hindi kavi aur darshnik. Garhwal University.
3. Das, Bibha. A comparative study of Hindi and English tragedies of the 20th century. University of Calcutta.
4. Dublish, Aruna. Adhunik Hindi alochana mein rasampradaya ka vikas. Meerut University.
5. Gauri Shanker Singh. The titles and themes of early Maithili dramas in view of the printed dramas of Modern Indian languages, upto 1900 A.D. University of Calcutta.
6. Girdhar Gopal. Nai kavita kee vishist shabdawali. University of Delhi.
7. Goel, Vibha. Reetikaleen sant kavi Tulsisaheb aur unka kavya: Ek gavekshnatmak adhyayan. Meerut University.
8. Kasturia, Saroj Bala. Prasad sahitya mein naitik chetna. University of Delhi.
9. Kaushish, Usha. Adhunik pariprekshya mein Tulsi ke kavya ka naitik mulyankan. Meerut University.
10. Markanday, Saroj. Nirala sahitya mein yugeen samasyayne. Meerut University.
11. Mishra, Shyam Krishnan. Dwivediyugeen samiksha: Visheshta Mishrabandhuon kee samiksha ka adhyayan. Vikram University.
12. Pantharkar, Dinker. Nirala ke kavya ka sadhanamulak adhyayan. Vikram University.
13. Ram Gopal Singh. Maharaja Vishwanath Singh kee krittyon ka sahityik anusheelan. Awadhesh Pratap Singh University.
14. Saxena, Prabha. Swatantryottar Hindi kahani per Freudvadi vichardhara ka prabhav, 1972 tak. Meerut University.
15. Sharma, Asha Lata. Nai kahani: Vastu aur shilp. University of Indore.

(Continued on page 542)

CLASSIFIED ADVERTISEMENTS

SAMBALPUR UNIVERSITY
JYOTI VIHAR: BURLA

Advertisement

No. 34191/TDS. **dated : 3.9.77**

Applications in the prescribed forms are invited for the following posts in the P. G. Department of the Sambalpur University as stated below :

Professor	One in Chemistry
Scales of pay:	Rs.1500-60-1800-100-2000-125/2-2500/-

Age of retirement:60 years

Qualifications

1. Atleast a first or High Second class Master's Degree in the subject with 55% of marks in the aggregate or Grade B+.
2. A Doctorate Degree or Published work or equivalent standard.
3. Experience in conducting and guiding Research work for a considerable period.
4. Independent published work of High Standard in addition to requirement in (ii) above.
5. Teaching experience for at least ten years in a college or University with at least 7 years experience in teaching P.G./Honours classes.
6. **Specialization**

   Preference will be given to the candidates having Specialisation in Inorganic Chemistry/Organic Chemistry/Physical Chemistry.

Qualification

As mentioned above for the post may be relaxed if the research work of a candidate as evident either from his/her thesis or from his/her published work is of a very high standard.

A Professor may also be appointed on contract basis for a specified period.

The posts carry the benefit of C.P.F. and Gratuity as sanctioned by the University from time to time.

Seven copies of the application forms will be supplied from the University Office to each candidate in person on cash payment of Rupees ten. Candidates intending to receive forms by post are required to send (a) Crossed Postal Order Rs 10/- payable to the Finance Officer, Sambalpur University (b) a self addressed envelope (23 cm x 10 cm) with postage stamps worth Rs 2.85 P. affixed to it with the words "APPLICATION FORMS FOR TEACHING POSTS IN SAMBALPUR UNIVERSITY" superscribed on it. Money Order/Cheque will not be entertained.

The last date of receipt of applications is **31st October, 1977**.

The candidates will be required to appear at an interview before a Selection Committee at their own expenses.

Documents submitted alongwith the application will not be returned.

All communication should be addressed to the Registrar, Sambalpur University by designation only. No interim correspondences in this regard will be entertained.

REGISTRAR

THE UNIVERSITY OF AGRICULTURAL SCIENCES

Administrative Office
GKVK Campus
Bangalore-562142

Advt. No. AO/6/1977 **September 12, 1977**

APPLICATIONS are invited from qualified persons for filling up the following posts temporarily in the University of Agricultural Sciences, Bangalore :

Sl. No.	Name of post	No. of posts	Place	Scale of pay Rs.
1	2	3	4	5
	(1) ICAR & OTHER SCHEME POSTS			
	AICRP on Oilseeds (Groundnut)			
1.	Junior Breeder	One	Kolar	400-40-800-50-950
	AICRP on Oilseeds (Groundnut & Castor)			
2.	Junior Plant Pathologist	One	Dharwar	-do-
3.	Junior Chemist	One	-do-	-do-
4.	Junior Statistician	One	-do-	-do-
	AICRP on Sugarcane			
5.	Junior Agronomist	One	Mandya	-do
6.	Junior Breeder	One	-do-	-do-
	AICRP on Tobacco			
7.	Nematologist	One	Shimoga	700-50-1250
8.	Farm Manager	One	-do-	400-40-800-50-950
	AICRP on Rice			
9.	Junior Pathologist	One	Mandya	-do-
	AICRP on Microbiological Decomposition on Organic matters etc.			
10.	Senior Microbiologist	One	Hebbal	700-50-1250
	AICRP on Water Management & Salinity			
11.	Agricultural Engineer	One	Dharwar	-do-
12.	Junior Chemist	One	-do-	400-40-800-50-950
13.	Junior Statistician	One	-do-	-do-
	AICRP on Dryland Agriculture			
14.	Agricultural Engineer	One	Hebbal	700-50-1250
15.	Plant Breeder	One	-do-	-do-
	AICRP on Dryland Agriculture — Sub-Centre			
16.	Junior Engineer	One	Bijapur	400-40-800-50-950
17.	Junior Soil Physicist	One	-do-	-do-
	AICRP on Oilseeds — Safflower			
18	Junior Agronomist	One	Annigeri	-do-
	AICRP on Saline Water in Agriculture			
19.	Soil Scientist	One	Dharwar	700-50-1250
20.	Junior Plant Breeder	One	-do-	400-40-800-50-950
21.	Junior Plant Physiologist	One (LV)	-do-	-do-
	AICRP on Studies on Harvest and Post-Harvest Technology			
22.	Junior Entomologist	One (LV)	Raichur	-do-
	AICRP on Potato Improvement			
23.	Junior Agronomist (Horticulture)	One	Hassan	-do-
24.	Junior Entomologist	One	-do-	-do-
25.	Junior Pathologist	One	-do-	-do-
	Centrally sponsored scheme for Drought Prone Areas Programme— Agro-economic research under the World Bank Programme			
26.	Agricultural Economist	One	Bijapur	-do-
	AICRP on Tuber Crops (other than Potato)			
27.	Junior Agronomist (Horticulture)	One	Mangalore	-do-
	Scheme on Physiological limitations in the productivity of Corn			
28.	Junior Agronomist	One	Hebbal	-do-
	Setting up of an advanced centre for research on Black Cotton Soils in Karnataka			
29.	Drainage Engineer	One	Dharwar	700-50-1250
	Applied Research trials on Pastures and forage mixtures and mixed farming systems (KDDC Project)			

1	2	3	4	5
30.	Assistant Professor (Dairy)	One	Hebbal	400-40-800-50-950
31.	Assistant Professor (Nutrition)	One	-do-	-do-
	Epidemiological studies on Leptospirosis in Karnataka State (Scheme sponsored by Science & Technology Deptt., Govt. of India)			
32.	Microbiologist	One	Hebbal	1100-50-1300-60-1600
33.	Asst. Microbologist	One	-do-	400-40-800-50-950
	Project for production of Super-Elite and Elite Sunflower Seeds			
34.	Oil Chemist	One	Hebbal	-do-
	Krishi Vigyana Kendra, Hanumanmatti (ICAR Project)			
35.	Training Organiser (Ag. Engineering)	One	Hanumanmatti	700-50-1250
36.	Training Organiser (Home Science)	One	-do-	-do-
	ICAR Agronomic Research Project (Project Coordinator's Wing)			
37.	Senior Scientist (Agronomy/Soil Science)	One	Hebbal	1100-50-1300-60-1600
38.	Junior Agronomist	One	-do-	400-40-800-50-950
39.	Junior Soil Chemist	One	-do-	-do-
	Coordinated programme of research on Bio-gas technology			
40.	Senior Microbiologist	One	Dharwar	700-50-1250
41.	Junior Agricultural Chemist/Biochemist	One	-do-	400-40-800-50-950
	AICRP on Spices & Cashewnut			
42.	Junior Plant Pathologist	One	Mudigere	-do-
	(2) UAS' POSTS			
43.	Technical Officer (Technical Audit Agency) (Lien vacancy)	One	Hebbal	700-50-1250
44.	Technical Assistant to Director of Research	One	Hebbal	400-40-800-50-950
45.	Professor of Fish Processing Technology	One	Mangalore	1100-50-1300-60-1600

NOTE: 1. The prescribed application form along with the qualifications prescribed for the above posts and the Instructions sheet can be had in person from any of the following Offices of the University on presentation of a crossed postal order for Rs. 2/- drawn in favour of the Comptroller, UAS, Bangalore:

(1) Administrative Officer, GKVK Campus, Bangalore 562142.

(2) Director of Instruction, Agricultural College, Hebbal, Bangalore 560024.

(3) Director of Instruction, Agricultural College, Dharwar 580005.

(4) Director of Instruction, Fisheries College, Mangalore.

(5) Principal, Agricultural Engineering Institute, Raichur 584101.

(6) Chief Scientific Officer, Regional Research Station, Mandya.

2. Applications can be had **by post only from the Office of the Administrative Officer, UAS, GKVK Campus, Bangalore 562142,** enclosing a crossed postal order as indicated above and also enclosing a **self-addressed stamped (0.45 ps.) envelope.** The last date for receipt of requisitions by post is **6th October, 1977 (6.10.77).**

3. All Ex-Servicemen and members of the families of Defence personnel killed or disabled in action are exempted from payment of the application fee as mentioned above. **However, requisitions for application forms from such persons should accompany necessary certificates in this regard.**

4. Filled in application forms should reach the **Administrative Officer, UAS, GKVK Campus, Bangalore 562142, on or before 13th October 1977.** Applications received after this date shall summarily be rejected.

5. The pay scales mentioned above are likely to be revised to UGC Scales of Pay.

ADMINISTRATIVE OFFICER

SAMBALPUR UNIVERSITY
JYOTI VIHAR : BURLA

No 34552/TDC **Dated : 8.9.77**

Application with attested copies of marksheets and certificates of all examinations passed are invited in the prescribed form for appointment of Lecturers in Mechanical Engineering on regular basis and on adhoc basis for the U.C.E , Burla. Persons who will be appointed on adhoc basis will be considered for appointment on regular basis on obtaining the minimum required qualification for the post.

Qualification for regular appointment
Essential

(a) A 1st class Master's Degree in Mechanical Engineering with good Academic Record.

(b) Two years Industrial or professional experience.

Desirable

(a) Capacity to conduct independent research.

(b) Doctorate Degree or published research work of equivalent standard.

II. **Qualification for Adhoc appointment**

First Class Bachelor's Degree in Mechanical Engineering with good academic record.

III. Scales of pay-Rs. 700-40-1100-50-1600.

(The posts carries C.P.F.-Cum-Gratuity benefits as would be sanctioned by the University from time to time in the cases of regular appointment).

IV. Age of retirement-Sixty years for all the above posts.

Seven copies of the application form will be supplied from the University office to each candidate in person on cash payment of Rs 10/- (Rupees ten only). Candidates intending to receive form by post are required to send (a) Crossed Indian Postal Order of Rs. 10/- payable to the Finance Officer, Sambalpur University, Jyoti Vihar, Burla (b) Self addressed envelope (23x10 cm) with postage stamps worth Rs. 2.85 affixed to it with the words "APPLICATION FORM FOR TEACHING POSTS IN THE SAMBALPUR UNIVERSITY" superscribed. Money Order, Cheque or Bank Draft will not be entertained.

The last date of receipt of application by the undersigned is **30.10.1977.**

Candidates will be required to appear before a Selection Committee appointed by the University at their own expenses. Selected candidates will be required to join the post within one month from the date of issue of appointment order.

Issue of this advertisement does not make it binding on the part of the University to make appointment.

All communications should be addressed to the undersigned by designation and not by name. No interim reply to any query shael be given.

REGISTRAR

PANJAB UNIVERSITY
CHANDIGARH

Advertisement No. 26/77

Applications are invited for two posts of Professors of Economics in the pay-scale of Rs. 1500-60-1800-100-2000-125/2-2500, so as to reach the Registrar, Panjab University, Chandigarh, along with postal orders for Rs. 7.50 by **October 24, 1977.**

Qualifications
Essential

(i) A first or high second class Master's degree of an Indian University of an equivalent qualification of a foreign University in the subject with bright academic record.

(ii) Either a research degree of doctorate standard or published research work of high standard in the subject, in journals of repute.

(iii) About 10 years experience of teaching post-graduate classes at a University or college level and experience of guiding research.

Desirable

Specialisation in Econometrics & Mathematical Economics, for one of the posts.

Candidates who do not possess a Doctoral degree are required to submit 10 typed/cyclostyled copies of brief return of their research/published work.

Persons already in service should route their applications through proper channel. Incomplete forms and those received after the due date will not be entertained. Serving employees may, however, send their applications on the prescribed proforma direct to the University. They may route another copy through their Departments. They will be allowed to present themselves for interview only on the production of 'No Objection Certificate' from their employers. Canvassing in any form will disqualify a candidate.

Application forms can be obtained from the Office of the Finance & Development Officer, Panjab University, Chandigarh, by making a written request accompanied with self-addressed stamped envelope of 23 × 10 cms.

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GURU NANAK DEV UNIVERSITY
AMRITSAR

Advertisement No. 22/77

Applications are invited for the following posts on prescribed form obtainable (free of cost) from Office of the Registrar, Guru Nanak Dev University, Amritsar by making written request accompanied by self-addressed stamped envelope of 23 × 10 cms. so as to reach this office by **18-10-1977** along with crossed postal order(s) for Rs. 7.50 for posts at Sr. No. 1 to 3 and Rs. 5/ for posts at St. No. 4 to 6 drawn in favour of Registrar, Guru Nanak Dev University, Amritsar. Application fee is not refundable.

Note : Persons already in employment must send their applications through their employer.

Grade : (Plus allowances as admissible under University rules).

1. Professors (Grade Rs. 1500-60-1800-100-2000-125/2-2500) in Mathematics and Political Science.
2. Readers (Grade Rs. 1200-50-1300-60-1900) in Biology, Economics, Law and Library Science.
3. Lecturers (Grade Rs. 700-40-1100-50-1600) in Political Science and Psychology (temporary).
4. Resarch Assistant in Economics (Grade Rs. 300-25-350/25-400-30-610/30-640-40-800)
5. Jr. Research Fellows (U. G. C.) (Rs. 400 p. m. fixed) in Economics and Mathematics.
6. Research Fellows (Rs. 400 p.m. fixed) in Economics, Pol. Sc., History.

Qualifications for the posts of Professors and Readers : i) A Doctor's degree or published work of an equally high standard. (ii) Consistently good academic record with 1st or high 2nd class (b+) Master's degree in relevant subject or an equivalent degree of a foreign University. (iii) About 10 years experience of teaching postgraduate classes and guiding research in the case of professors. About 5 years' experience of teaching postgraduate classes and post-doctoral research work in case of Readers. (iv) Knowledge of Panjabi and a foreign language other than English will be an additional qualification.

For the posts of Lecturers : i) A Doctor's degree or published work of an equally high standard; and (ii) Consistently good academic record with 1st or High 2nd class (b+) Master's degree in the relevant subject or an equivalent degree of a foreign University, (iii) Teaching/research experience and knowledge of Punjabi and a foreign language other than English will be additional qualification.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of the qualifications prescribed in (ii) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent published work is not available or is not considered suitable, a person possessing a consitently good academic record (due weightage being given to M. Phil or equivalent degree or research work of quality) may be appointed on the condition that he will have to obtain a Doctor's degree or give evidence of published work of equivalent high standard within five years of his appointment, failing which he will not be able to earn future increments until he fulfils these requirements.

Explanation : Consistently good academic record means overall record of all assessments throughout the academic career leading to Master's degree, which should at least be (b+) or high second class.

For post at Sr. No. 4 : i) Good academic record with (b+) Master's degree in Economics. (ii) Research experience/aptitude for research.

For post at Sr. No. 5 & 6 : i) First or High Second Class Master's degree in the subject concerned with good academic record. (ii) Aptitude for research.

SPECIALIZATIONS

Professor of Political Science : i) Political Theory. (ii) International Politics. (iii) Comparative Politics.

Readers in Biology : Ecology/Animal Physiology/Plant Physiology/Experimental Embriology/Bio-Chemistry (Animal)/Plant Systematics/Genetics/Byosystematics/Population Biology/Molecular Biology/Microbial Genetics or any other modern and interdisciplinary area in Biology.

Readers in Economics : **For first post** : Economic Statistics and Econometrics. **For second post** : Agricultural Economics/Industrial Economics/Money and Banking/Public Finance. (One post is permanent and one post is temporary).

Readers in Law : Constitutional Law/Family Law.

Desirable Qualification for Reader in Library Science : Experience of working in a University Library.

Lecturer in Psychology : (i) Social Psychology. (ii) Developmental Psychology. (iii) Clinical Psychology (iv) Industrial Psychology.

Lakha Singh Sandhu
REGISTRAR

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KUMAUN UNIVERSITY
NAINITAL

Advt. No. 2433 **Dated 27-9-1977**

Applications are invited for the posts of Lecturers in Physics, Chemistry, Botany, Zoology, Mathematics, Hindi, Sanskrit, English, Economics, Political Science, History, Sociology, Geography, Drawing and Painting, Education, Commerce, Tourism, Banking Accountancy Diploma course, Forestry for constituent Colleges of the University located at Nainital and Almora.

Qualifications (Essential)

(a) A doctorate Degree or a published work of a high standard in the subject concerned.

(b) Consistently good academic record (that is to say the overall record of all assessments throughout the academic career of candidate), with first class or high second class (that is to say with an aggregate of more than 54 percent marks) Master's degree in the subject or equivalent degree of a foreign university in such subject.

2. Where the Selection Committee is of the opinion that the research work of a candidate, as evidenced either by his thesis or by his published work is of a very high standard, it may relax any of the qualifications specified in subclause (b) of clause (1).

If a candidate possessing the qualification specified in sub-clause (a) of clause (1) is not available or is not considered suitable, a person possessing a consistently good academic record (due weightage being given to M. Phil. or equivalent degree or research work of quality) will be appointed on the condition that he will have to attain the required qualifications, within five years of his appointment, failing which he shall not earn future increments until he fulfils the conditions.

Experience

Persons having teaching experience of Post-graduate classes will be given preference.

Desirable

1. M.A. in Geography/Economics/History, who has been in the trade as a Government Officer or in private travel agency and experience of U.P. and Himalayan region and well versed in field experience of travel trade will be given preference for the post of Lecturer in Tourism.

2. Persons having specialisation in Accountancy and practical experience in Industry or Government Organisations will be given preference for the post of Lecturer in Banking Accountancy Diploma course.

There will be reservations for S.C./S.T. according to the university rules. If the candidates of above categories are not found suitable, the vacancy will be filled up from the general candidates.

All the above posts carry dearness allowance and benefit of provident fund as admissible under the rules of university on confirmation.

The prescribed application form can be available on request accompanied by a self addressed envelope of size 28x10 cm. having affixed postal stamp of Rs 2.85 from the Office of the Registrar, Kumaun University and applications complete in all respects together with a crossed postal order of Rs 10/- (non-refundable) in favour of Finance Officer should reach the university by **29th October, 1977.**

Candidates already in service should apply through proper channel.

The university reserves the right to fill up or not to fill up the post advertised and/or to call the candidates for interview to whom it considers suitable.

NOTE : The candidates who have already applied for the post of Lecturer Toursim, Banking Accountancy, Forestry need not apply again.

REGISTRAR

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ALIGARH MUSLIM UNIVERSITY
Advertisement No 21/77-78

Applications, on the prescribed form, are invited for the following posts:

Candidates must possess Medical qualifications included in first or second schedule or part II of the third schedule (other than licentiate qualifications) of the Indian Medical Council Act 1956. Holders of educational qualifications included in Part II of third schedule should fulfil the conditions stipulated in Section 13(3) of the Indian Medical Council Act, 1956. Must possess a basic University or equivalent qualification entered in schedules under State/Central Medical Registration Act (for the post at Sl. No. 1 only).

1. Lecturer in Preventive & Social Medicine & Lecturer (Medical Officer of Health), SPM Department. Scale Rs 700-40-1100-50-1600 plus allowances.

Qualifications

M.D. (Social & Prev. Medicine), Speciality Board of Social & Prev. Medicine (USA). Dr. P.H. (John Hopkins), Dr. P.H. (Harward) Dr. P.H. (California), M.D. (Medicine) with D.P.H. The requisite recognised postpraduate qualification, in the subject and three years teaching experience as Tutor/Demonstrator in SPM or as Epidemologist/Health Officer of which one year should be after Postgraduate qualification.

2. Officer Incharge Training Placement, Z.H. Engineering College. Scale Rs. 1500-60-1800 plus allowances.

Qualifications

(a) A first or high second class basic degree in Engineering; (b) Ordinarily postgraduate degree in Engineering; (c) Ordinarily ten years experience of which atleast three years should be in Industry and two years in teaching/research with a Senior position in Industrial/teaching/research Organisation.

Desirable

Experience of supervising or arranging practical training and placement of Engineering Graduates in Industry and of looking after students welfare.

Note

Those who have already applied for the post of Professor Incharge, Training & Placement need not apply again.

1. Reader in Arabic. Scale Rs 1200-50 1300-60-1900 plus allowances.

Qualifications

(a) A first or a high second class Masters Degree in the subject concerned of an Indian University or an equivalent foreign qualification; (b) A research Degree of a doctorate standard or published work of a high standard; and (c) At least five years experience of teaching postgraduate classes and some experience of guiding research.

4. Lecturer in Chemistry, Z.H. Engg. College. Scale Rs 700-40-1100-50-1600 plus allowances.

Qualifications

(a) A Doctors Degree or research work of an equally high standard; and (b) consistently good academic record with first or high second class (B in the seven point scale) Master's Degree in the subject concerned or an equivalent degree of a foreign University.

Having regard to the need for developing interdisciplinary programmes, the degrees in (a) and (b) above may be in relevant subjects.

5. Lecturers in Political Sciences (Temporary but likely to become permanent). Scale Rs. 730-40-1100-50-1600 plus allowances.

Qualifications

(a) A Doctors Degree or research work of an equally high standard, and (b) consistently good academic record with first or high second class (B in the seven point scale) Master's Degree in the subject concerned or an equivalent degree of a foreign University.

Having regard to the need for developing interdisciplinary programmes, the degrees in (a) and (b) above may be in relevent subjects.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of the qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's Degree or equivalent research work is not available or is not considered suitable, a person possessing a consistently good academic record (weightage being given to M. Phil. or equivalent degree or research work of quality) may be appointed provided he has done research work for atleast two years or has practical experience in a research laboratory/organisation on the condition that he will have to obtain a Doctor's Degree or give evidence of research work of equivalent high standard within five years of his appointment failing which he will not be able to earn future increments until he fulfils these requirements.

Prescribed application forms and instructions may be had from the Deputy Registrar (Executive) either personally or by sending a self-addressed envelope of 23 x 10 CM. Last date for receipt of applications is **22nd October, 1977.** Incomplete applications and those received late may not be considered.

Higher initial start may be given to candidates possessing exceptional qualifications and experience. Candidates interviewed may be paid contribution towards their T.A. equal to one single second class railway fare only.

Jamalur Rahman
REGISTRAR

CURRENT DOCUMENTATION IN EDUCATION

A list of select articles culled from periodicals received in AIU library during September, 1977.

EDUCATIONAL PHILOSOPHY

Dahrendorf, Ralf. "Case for strengthening what is strong". *Times Higher Education Supplement* (304); 26 Aug 77:5.

Husen, Torsten. "Problems of securing equal access to higher education: The dilemma between equality and excellence". *Higher Education* 9(4); Nov 76: 407-22.

Middleberg, Maurice I. "Moral education and the liberal arts". *Educational Record* 57(4); Fall 76: 236-40.

Proctor, Samuel D. "Education and the humanization of society". *Educational Record* 57(4); Fall 76: 241-6.

EDUCATIONAL SOCIOLOGY

Hamalian, Arpi. "Good professors: A subculture of professors in the United States and England". *Higher Education Bulletin* 4(1); Winter 75: 91-103.

Parker, Clyde A. "Student indiscipline in Indian universities". *University Administration* 3(1); Jan 76: 16-35.

EDUCATIONAL PLANNING

Drake, Keith. "Educational planning by halves". *Higher Education Review* 9(1); Autumn 76: 45-57.

Fowler, Garry. "Looking before leaping is only safe way forward". *Times Higher Education Supplement* (305); 2 Sept 77: 11.

Salter, Brian. "Student residence: Policies or promises?" *Higher Education Review* 9(1); Autumn 76: 31-43.

EDUCATIONAL ADMINISTRATION

Amrik Singh. "Problems of small colleges in Punjab". *University News* 15(16); 16 Aug 77: 431, 433.

Deniozos, Demetris, Solliard, Mireille and Paltenghi, J.J. "Resource allocation processes and internal government in Swiss universities". *Higher Education* 5(4); Nov 76: 397-406.

Dunworth, John and Cook, Rupert. "Budgetary devolution as an aid to university efficiency". *Higher Education* 5(2); May 76: 153-67.

Ghosh, D.K. "Rejuvinating the university administration". *University News* 15(16); 16 Aug 77: 434-5.

Goldschmidt, Dietrich. "Participatory democracy in schools and higher education: Emerging problems in the Federal Republic of Germany and Sweden". *Higher Education* 5(2); May 76: 113-33.

"Padmavathy College of Science and Technology: A case study". *University Administration* 3(1); Jan 76: 96-102.

Sommers, Alexis N. "University productivity". *Educational Record* 57 (4); Fall 76: 251-6.

Sunnymore. "Psychopathology of academic bureaucracy". *University Administration* 3(1); Jan 76: 92-5.

CURRICULUM

Portia, D.R. "Curriculum development in higher education". *University Administration* 3 (1); Jan 76: 48-53.

TEACHING

Bridge, Will. "Self-study courses in undergraduate science teaching: Report of a survey". *Higher Education* 5 (2); May 76: 211-24.

Goldschmid, Marcel L. "Teaching and learning in higher education: Recent trends". *Higher Education* 5 (4); Nov: 76: 437-56.

Nelsson, Olof. "Mathemagenic activities and teaching: A review". *Higher Education Bulletin* 4 (2); Summer 76: 159-97.

Perlberg, Arye. "Use of laboratory systems in improving universiry teaching". *Higher Education* 5 (2); May 76: 135-51.

Reddy, N.Y. Programmed learning: Is it an effective technique in teaching". *University Administration* 3 (1); Jan 76: 54-67.

Rhodes, Dent M. "Achieving teaching excellence: Some misconceptions and a proposal". *Higher Education Bulletin* 4 (2); Summer 76: 105-21.

Shore, Bruce M. "Success and failure of formal teaching improvement efforts in higher education". *Higher Education Bulletin* 4 (2); Summer 76: 123-38.

EDUCATIONAL RESEARCH

Harvey, A.D. "Universities as subjects of academic study". *Higher Education Review* 9 (1); Autumn 76: 19-30.

Joshi, D.C. and Sharma, R.C. "Bibliography of research projects completed on higher education in India". *University Administration* 3 (1); Jan 76: 68-75.

ECONOMICS OF EDUCATION

Bardhan, A.B. "Employment guarantee scheme and rural unemployment". *Mainstream* 15 (52); 27 Aug 77: 3-5.

Common, Micheal S. "Costs of university admissions". *Higher Education Review* 9 (1); Autumn 76: 58-75.

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TATA INSTITUTE OF SOCIAL SCIENCES, SION-TROMBAY ROAD, DEONAR
BOMBAY-400 088

Applications in the prescribed form which can be had along with the details of qualifications, experience, nature of duties etc. from the above address either personally or by sending self-addressed envelope (23½ × 10 cms) with stamps worth 0.70 paise are invited for the following posts along with application fee of Rs. 10/- & Rs. 5/- for post 4 & enclosures:

1. **Professor** in Social Work in the scale Rs. 1500-60-1800-100-2000-125/2-2500, plus D.A. and other allowances. 2. **Reader** in the Unit for Research and Consultancy in Social Policy and Social Welfare Administration in the scale Rs. 1200-50-1300-60-1900 plus D.A. and other allowances. 3. **Lecturers** in the scale Rs. 700-40-1100-50-1600 plus D A. and other allowances. Two permanent posts (i) One in the Unit for Research and Consultancy in Social Policy and Social Welfare Administration (ii) One in the Unit for Urban Studies with specialisation either in Sociology, Economics, Public Administration or Management Studies. 4. **Assistant Lecturers** in the scale Rs. 350-25-675 plus D.A. and other allowances. (i) One permanent post in the Research Unit for Study of the Urban Child and Youth (ii) One permanent post in the Family and Child Welfare Department. All the above except (1) & 4 (ii) are primarily research posts though they may involve some teaching. Last date for receipt of request for application form is **October 10, 1977** and the last date for receipt of completed application form is **October 31, 1977.**

N. Krishnamoorthy
REGISTRAR

* * *

SRI VENKATESWARA UNIVERSITY

Applications are invited from persons possessing the qualifications mentioned below for the following posts:

I. POSTGRADUATE DEPARTMENTS TO BE STARTED AT KURNOOL:

Reader in Economics —	One
Reader in Quality Control & Operational Research —	One
Lecturers in Economics —	Two
Lecturers in Quality Control & Operational Research —	Two

II. POSTGRADUATE DEPARTMENTS TO BE STARTED AT CUDDAPAH:

Reader in Commerce —	One
Reader in Public Administration —	One
Lecturers in Commerce —	Two
Lecturers in Public Administration —	Two

SCALES OF PAY

(i) Reader: Rs 1200-50-1300-60-1900
(ii) Lecturer: Rs. 700-40-1100-50-1600
(Usual allowances will be given)

QUALIFICATIONS

Reader in Economics (i) A first or high second class in M.A. (Economics); (ii) A research degree of a doctorate standard or published work of an equally high standard; (Preference to those who have done research work on Regional Economics/ Area Planning/Regional Economic Studies/ Planning techniques); and (*iii*) Not less than five years teaching experience (relaxable in the case of those who have specialised in the above areas)

Desirable : 1. Experience in guiding research;
2. Publications.

Lecturer in Economics: (i) A first or high second class in M.A. (Economics) and (ii) a research degree of a doctorate standard or published work of an equally high standard. (Preference to those who have specialised in Regional Economics/Area Planning/Regional Economic Studies/Planning Techniques/Quantitative techniques/Demography).

Desirable: Experience in Teaching and Publications.

Reader in Quality Control & Operational Research : (i) A first or high second class in M.A./M.Sc. in Quality Control/Operational Research, or in Statistics with specialisation in Operational Research Quality Control; (ii) A research degree of a doctorate standard or published work of an equally high standard (must have done research on Quality Control/Operational Research), and (iii) Not less than five years teaching experience (Relaxable in the case of those who have specialised in Quality Control & Operational Research).

Desirable : 1. Experience in Guiding research;
2. Publications.

Lecturers in Quality Control & Operational Research : (i) A first or high second class in M.A./M.Sc. in Quality Control/Operational Research or in Statistics with specialisation in Quality Control Operational Research; and (ii) a research degree of a doctorate standard or published work of an equally high standard (Relaxable).

Desirable : Experience in Teaching and Publications.

Reader in Commerce: A first or high second class in M.Com. with Advance Accontancy or Cost Accountancy; (ii) a research degree of a doctorate standard; or published work of an equally high standard; and (iii) Not less than five years teaching experience.

Desirable : 1. Experience in Guiding Research;
2. Publications.

Lecturers in Commerce : (i) A first or high second class in M Com. and A.I.C.W.A., or I or high second class M.Com. with Advance Accountancy/Cost Accountancy or B.Com., with F.C.A.; and (ii) a research degree of a doctorate standard or published work of an equally high standard (Relaxable).

Desirable : Experience in Teaching and Publications.

Reader in Public Administration: (i) A first or high second class M.A. in Public Administration/Political Science (preference for M.A.'s in public Administration); (ii) a research degree of a doctorate standard or published work of an equally high standard (preference to one who has done research on or a subject relating to Public Administration); and (iii) one of the following (a) Degree/Diploma in Personnel Management; (b) Degree/Diploma in Industrial Relations; (c) Degree/Diploma in Local Self-Government; and (iv) not less than five years teaching experience (Relaxable).

Desirable: 1. Experience in Guiding Research;
2. Publications.

Lecturers in Public Administration: (i) A first or high second class in M.A. Public Administration/Political Science (preference for Public Administration); and (ii) a research degree of a doctorate standard or published work of an equally high standard. Candidates with these additional qualifications will be preferred: 1. Degree/Diploma in any of these: Personnel Management, Local Self-Government, Industrial Relations; or (2) Training in Organisation and Methods; or (3) Acquaintance with or Training in Local Self-Government or Organisation of Industry. Persons with Masterate Degrees in Personnel Management/Industrial Relations along with Diplomas in Public Administration/Training in Organisation & Methods may also apply for these posts.

Desirable: Experience in teaching and publications.

Applications on plain paper giving the following details together with attested copies of certificates, testimonials etc., and with Registration fee of Rs 20/-, either by Andhra Bank/State Bank of India Challan or by a crossed Indian Postal Order drawn in favour of the Registrar, S.V. University, Tirupati and payable in the S.V. University Campus Post Office, Tirupati-517502. may be sent to the Registrar, S.V. University, Tirupati, Andhra Pradesh, so as to be received on or before **8-10-1977.**

1. Name of the post applied for:
2. Name and Address:
3. Date of birth and age:
4. a. Nationality:
   b. Whether belongs to S.C./S.T./B.C.:
5. Educational qualifications: giving details of examinations passed with percentage of marks, rank, specification etc.
6. Details of experience :
   a. Employment:
   b. Research:
7. Particulars of Registration fee of Rs. 20/- paid.

There will be reservation for S.C./S.T./B.C. for LECTURER POSTS according to U.G.C./State Government guidelines. Selected persons for above posts will be posted in University Post-Graduate Departments in Kurnool and Cuddapah. Persons in employment should send their applications through proper channel.

The University reserves to itself the right to fill or not to fill any posts. The qualifications may be relaxed at the discretion of the Selection Committee and Syndicate when candidates with prescribed qualifications are not available and to consider and appoint persons who may not have applied.

Dt: 14.9.1977 **REGISTRAR**

UNIVERSITY NEWS, OCTOBER 1, 1977. Regd. No. R. N. 7180/63 Postal No. D. (C) 534

BIDHAN CHANDRA KRISHI VISWA VIDYALAYA
P.O. MOHANPUR, WEST BENGAL

Advertisement No. Apptt. 5/77

Applications in prescribed form are invited for the post of Director of Research in the scale of Rs. 1500-60-1800-100-2000-125/2-2500/- plus a Special Allowance of Rs. 250/- and other allowances as admissible under Viswa Vidyalaya rules :

Qualifications: Essential:

(i) Consistently good academic record with 1st or high 2nd Class (B+) Master's degree or recognised equivalent qualifications;

(ii) Doctorate in Agriculture/Veterinary/Animal Sciences/Dairy Sciences/Fisheries/Forestry or in any of the Sciences basic to those;

(iii) 10 years experience of research in any branch of Agriculture/Veterinary/Animal Sciences/Dairy Sciences/Fisheries/Forestry as evidenced by publication in standard journals;

(iv) Ability to plan, organise, guide and administer research activities;

(v) At least 5 years experience as Chief of a Research Organisation/Head of a research department in an Institution (national or State--at the University level) where research forms a major activity.

Desirable: Expereince of:

(i) Teaching at post-graduate level;

(ii) Extension work in Agriculture.

Age: Below 50 years.

Experience and age limit may be relaxed on the recommendation of the Selection Committee in the case of a candidate otherwise well qualified. A high initial pay in the scale may be granted on the basis of qualifications, experience and present emoluments.

Selection will not necessarily be confined to those who will apply formally.

Applications must be submitted in the prescribed form which may be obtained from the office of the Registrar, Bidhan Chandra Krishi Viswa Vidyalaya, P.O. Mohanpur, Dist Nadia, West Bengal personally or by sending self addressed stamped (0.25) paise envelope (25cm × 12cm) on payment of rupees eight (Rs. 8.00) only for the post by crossed Indian postal order in favour of the Bidhan Chandra Krishi Viswa Vidyalaya. Persons already in employment should apply through proper channel. Candidates in abroad may also apply on plain paper with necessary Postal Order. Applications, completed in all respect should be submitted in an envelope superscribed with the name of the post and must reach office of the Registrar by the **17th October, 1977.**

Candidates called for interview will have to appear for the same at their own cost.

REGISTRAR

THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA
BARODA

The last date for receipt of applications in response to the Advertisement issued under Notification No. 9 for the posts of Professors, Readers and Lecturers has been extended from **10.10.1977 to 1.11.1977**.

K.A. Amin
REGISTRAR

No. ADE/H/S 1/2290
26th September 1977

* * *

JAMIA MILLIA ISLAMIA
JAMIA NAGAR
NEW DELHI-110025

Advtt. No. 11/77-78

CORRIGENDUM to **Advt. No. 11/77-78** published in these columns in **September 16, 1977 issue.** It is informed to all concerned that the said advertisement for the post of Professor in Education (Teachers' College) has been withdrawn. Therefore the applications for this post will not be entertained.

Furthermore, the applications for the post of T.G.T. Science (Middle School) are invited from the candidates who have the combination of Physics, Chemistry and Biology at their B.Sc. degree only.

Zamir Hasan
Dated: 26.9.1977 OFFG. REGISTRAR

* * *

UNIVERSITY OF INDORE
UNIVERSITY HOUSE
INDORE-452 001

No. Estt./III(1)/75-77 Dated 21-9-77

Advertisement

Applications are invited for the post of Controller, University Printing Press in the pay scale of Rs. 700-50-1250/-. Dearness and other allowances and benefit of Provident Fund will be admissible according to the University Rules.

2. Essential Qualifications

(a) Second class Bachelor's degree in Arts, Science, Commerce or Engineering and also Diploma in Printing and allied Trades from a recognised technical Institution/School/College of Printing in India.

(b) Atleast 7 years experience in a responsible Supervisory capacity on a scale of pay not lower than Rs. 350-600/-in a printing press having modern mechanical composing, automatic printing machine etc.

(c) Thorough knowledge of hand and mechanical composing, printing, machine minding binding, and all branches of printing trade, knowledge of copy fitting, manuscript editing, types, preparation of layout and display etc.

(d) Must have good knowledge of Hindi and English.

3. Age:- Preferably below 50 years.

Note

(i) Candidates with outstanding record of Press management and/or as practising printers with conspicuous success in their line can be considered for exemption from the Diploma in Printing Technology.

(ii) Candidates with outstanding technical qualifications and experience can be considered for relaxation in the requirement of academic qualifications shown at 2(a) above.

4. A higher initial start may be given to a candidate with higher qualifications and experience. Preference will be given to Scheduled Caste and Scheduled Tribe candidates, if found suitable. Candidates already in service should apply through proper channel.

5. Applications may be made on plain paper giving full particulars of all examinations passed alongwith copies of Mark-sheets and Certificates of experience together with a Crossed Postal Order of Rs. 7/-, payable to the Registrar, University of Indore, Indore so as to reach the undersigned not later than **25.10 1977**. The envelope should be marked "Application for the post of Controller, University Press."

6. The University reserves the right to fill-up or not to fill-up the post and/or to call only selected candidates for interview at their own cost.

A.G. Sharma
REGISTRAR

* * *

SOUTH GUJARAT UNIVERSITY
UNIVERSITY CAMPUS
UDHNA MAGDALLA ROAD
SURAT-7

Applications in the prescribed forms (in eight copies) are invited for the post of Placement Officer in the Department of Business and Industrial Management of this University in the Scale of Rs. 1100-50-1300-60-1600.

Details regarding the qualifications and application forms prescribed can be had from the undersigned on payment of Rs. 7/- in Cash or by Postal Order drawn in the name of Registrar, South Gujarat University with self addressed envelope of 23 cm x 13 cm size duly stamped with 00-50 paise each.

The last date for receipt of the applications is **15-10-1977**.

G.A. Desai
REGISTRAR

Dated: 17th September, 1977.

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University News

A CHRONICLE OF HIGHER EDUCATION & RESEARCH OCTOBER 16, 1977 80 PAISE

Mess in Education • Choice in Examinations

Dr. S. Settar, Professor of History and Archaeology, Karnatak University (right), examining an Asokan rock edict found recently in a village in Bellary district of Karnataka.

INDIAN INSTITUTE OF TECHNOLOGY, KANPUR
KANPUR-208016

Advertisement No. 24/77

Applications are invited for various faculty positions in the Institute in the following pay scales:

Professor: Rs. 1500-60-1800-100-2000-125/2-2500.

Assistant Professor: Rs. 1200-50-1300-60-1900.

Lecturer: Rs. 700-40-1100-50-1600.

The departments are seeking individuals with ability and aptitude for teaching in undergraduate/postgraduate programme, research and development in any of the areas of specialization listed under each. The number of positions available in each of the departments are also indicated below:

1. Department of Civil Engineering

(a) Building materials
(b) Construction and management
(c) Design of concrete and Steel Structures
(d) Design of offshore structures
(e) Engineering geology and remote sensing
(f) Pollution control
(g) Reliability-based design of structure-soil-systems
(h) Rock mechanics and underground Structures
(i) Surveying, photogrammetry and resource evaluation
(j) Transportation systems-navigational and material transport.

Number of positions: **Six** (Likely to be seven).

Positions: Assistant Professors and Lecturers.

2. Department of Methematics

(a) Algebra
(b) Analysis
(c) Differential Equations
(d) Fluid dynamics
(e) Functional analysis
(f) Operations Research
(g) Numerical Analysis
(h) Statistics
(i) Topology.

Number of positions: **Five**

Positions: Professors, Assistant Professors and Lecturers.

3. Department of Metallurgical Engineering

Areas of specialization for the post of Professor

(a) Mechanical behaviour of metals (dislocation theory, plastic deformation, superplasticity),
(b) Ceramics (processing, transformation, magnetic ceramic),
(c) Extractive metallurgy (with emphasis on physico-chemical aspects),
(d) Physical metallurgy (electron microscopy, phase transformations, and point defects).
(e) Corrosion and protection of metals and alloys.

Areas of specialization for the post of Assistant Professor and Lecturer

(a) Electron microscopy and X-ray crystallography,
(b) Ferrous extractive metallurgy,
(c) Physics of metals (with experience in setting up of facilities for magnetic and transport property measurements),
(d) Mechanical Processing (rolling, foreging, extrusion)
(e) Casting technology/heat treatment (industrial experience essential),
(f) Welding metallurgy (industrial experience essential),
(g) Physical metallurgy (with specialization in materials for energy conversion).

Number of positions: **Seven**

Positions: Professor, Assistant Professor and Lecturer.

Qualifications for various Positions

Professor

Doctorate degree with good academic record and at least eight years of professional experience of good quality outside the work for the degree.

OR

M. Tech. with good academic record and at least fifteen years of industrial experience with brilliant record outside the work for the degree.

The candidates must have demonstrated ability of independence in teaching and research with significant contribution in the area of specialization evinced by the adequate number of research publications of good quality in journals of repute and/or developmental project reports of equivalent merit based on the work outside the candidates own thesis.

Assistant Professor

Doctorate degree with good academic record and at least three years of professional experience outside the work for degrees. **OR**

M.Tech. with good academic record and at least seven years of industrial experience with good record outside the work for degree.

The candidates must have potential for independence in teaching and independent research work as demonstrated by adequate number of publication of good quality in journals of repute outside the candidate's own thesis, or equivalent development work done.

Lecturer

Doctorate degree with a good academic record and adequate research experience resulting in research papers of good quality. **OR**

M. Tech. with good academic record and at least three years of teaching research/industrial experience with good record outside the work done for degree.

Desirable Qualifications in Civil Engineering

Basic degree in Civil Engineering for all the posts.

Desirable Qualifications in Mathematics

Master's degree in Mathematics/Statistics for all positions.

Desirable Qualifications in Metallurgical Engineering

Basic degree in Metallurgical Engg. for Assistant Professor's and Lecturer's category only.

The Indian Institute of Technology, Kanpur has well equipped laboratories and central facilities. The Institute has a large computer centre with IBM 7044, IBM 1401, IBM 1800, PDP-1 systems with interactive graphic terminals and TDC-316 and a group of experienced programmers. The Institute has a well stacked library with more than 1,50,000 volumes and 1,300 periodicals. The central facilities include 2 MV Van de Graaff accelerator, 4096 multi-channel analyser and other radiation detection equipment, liquid nitrogen and liquid helium plants, NMR, EPR, Mass Spectrometer, X-ray plant, TV and IR sepctrometers, glass blowing shop, crystal growth facility, central instrumentation laboratry, precision machine shop, electron microscope besides a large workshop for fabrication of specialised research apparatuses.

There is an Advanced Centre for Electronic Systems at the Institute. The Centre has been sponsored by the Ministry of Defence to carry out training and unclassified research and development work in the areas of communication and radar. Besides, an Advanced Centre for Materials Science has been established recently at the Institute by the Government of India to undertake research in the frontiers of development on materials of national importance.

The campus facilities include a primary and Higher Secondary School, a Health Centre and Shopping Centre.

Posts are permanent and carry retirement benefits in the shape of CPF Scheme or CPF-cum-Gratuity Scheme or GPF-cum-Pension-cum-Gratuity Scheme as may be opted according to rules. The age of retirement is 60 years. During the first year, the appointment will be on probation. Besides pay, posts carry allowances according to the Institute rules, which at present correspond to those admissible to the Central Government employees stationed at Kanpur. Higher initial pay is admissible to exceptionally qualified and deserving candidates. Candidates called for interview will be paid second class railway fare from the place of duty to Kanpur and back by the shortest route.

In the category of Lecturer, one post in each of the Departments will be reserved for SC/ST candidates. In the event of non-availability of suitable SC/ST candidates, the reserved posts would be treated as dereserved.

Applications from within India must be made on prescribed form obtainable free of charge from the Registrar of the Institute by sending a self-addressed unstamped envelope of 25 cm × 10 cm size. Applications should be accompanied by a postal order for Rs. 7.50 (1.87 for SC/ST candidates).

Applicants from abroad may apply on plain paper enclosing a complete biodata and names of three referees from whom reference letters may be obtained.

Applications should reach the Registrar, Indian Institute of Technology, IIT Post Office, Kanpur-208016 (India) on or before **15th November, 1977.**

UNIVERSITY NEWS

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Opinions expressed in the articles and reviews are individual and do not necessarily reflect the policies of the Association

Editor : ANJNI KUMAR

The Mess That Is Education

Amrik Singh*

We spend Rs. 2,300 crores on education. What do we get in return? What are the social and economic consequences of neglecting elementary and adult education? Is our entire effort unproductive?

There are two ways of assessing what India has achieved during the last thirty years in education. One is to reel off statistics and dazzle the reader with the immensity of the job accomplished. This would be the public relations approach and no one inclined to be serious or honest would adopt it.

The second approach is to call attention to the unfinished part of the job and the scale of operations involved, decry the triumph of quantity over quality and criticise the general air of futility and purposelessness that characterises the educational system. This would be taking an extreme position. Nor is it likely to help, for the purpose of any such assessment should be to see where we have gone wrong and how we can change our policies now.

It is generally assumed that education has not received as much support from the state as it ought to have. This is not correct. In 1976-77 the country spent over Rs 2,300 crores on education. This is quite close to the expenditure on defence for which Rs 2,550 crores was provided in the 1976-77 Budget. Since the Defence Budget constitutes a part of the Central Budget, one cannot help but notice it. In the case of education, however, the allocation is spread over the Central, State and Union Territory Budgets and is therefore not particularly visible. Furthermore, some allocations are included in grants for other Ministries—e.g. medical education under the Ministry of Health, agricultural education under the Ministry of Agriculture, and so on. All these allocations, when totalled up, come to over Rs 2,300 crores in 1976-77. Not only that, six years ago (1971-72), the sum allotted to education was 50% of the 1976-77 figure—Rs 1,118 crores to be precise.

Are We Using Our Resources Gainfully ?

While it may be possible to find another Rs 100-200 crores for education, given the resources of the country, the constraints are obvious. The point to note here is that, since resources are limited and are determined by the overall wealth of the country, one should never forget that wastage in education is a crime. Most people involved in education are hardly aware of this aspect of the problem. They seem to assume that their job is to spend—and somehow the state will find the required resources.

If we are spending as much as Rs 2,300 crores annually on education and if we are unable to find

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**Vice-Chancellor, Punjabi University, Patiala.*

additional funds on a significantly larger scale, we must obviously ask ourselves: are we using our resources intelligently as well as justly? The answer to this question may be found with reference to two important and interlinked considerations: how far has the progress in education since 1947 contributed to the growth of the economy and how far has it ensured social justice?

That education has contributed substantially to the growth of the Indian economy is obvious. India today ranks tenth among the industrial nations of the world. Our agricultural output, although unsatisfactory till a few years ago, is improving. To some extent at least this development is the outcome of the work of the agricultural universities. Also, India today has the third largest scientific trained manpower in the world. And it has an industrial infrastructure which is capable of doing fairly sophisticated jobs; at least some Afro-Asian countries look up to us for leadership in this regard.

The Sinister Side

So much for the positive side. On the negative side, there is the undisguised fact that there is much greater poverty today as compared to a few years ago. For example, in the early sixties in their book, *Poverty in India*, Dandekar and Rath had estimated that 40% of the rural poor and 50% of the urban poor did not get two square meals a day. According to more recent estimates nearly 60% of the total population live below the poverty line. Indeed, these people are unable to buy the foodgrains that are available in government stocks. The situation on the unemployment front is equally grim. Ten years ago the number of people registered with employment exchanges was 2.7 million; the figure has grown beyond 10 million today. It is, however, a highly inadequate index of the state of unemployment and under employment that prevails all over the country. While the Planning Commission and others concerned are devising ways and means of creating more employment for the teeming millions, hardly any attention is being paid to the role played by education in contributing to the economic development of the country.

What is involved here is our definition of what constitutes development. If development means sophisticated technology and capital-intensive industries, the country has been moving along the right lines. But if growing destitution and unemployment are a part of this process of development, as seems only too evident, one cannot but question this strategy of development. This is a also linked with the second issue: whether progress in education has also contributed to greater social justice.

The most obvious evidence of the failure of our system of education in bringing about greater social justice is the fact that more than two-thirds of the population is illiterate. Every now and then one hears of eradication of mass illiteracy and indeed one lives in the hope that one of these days this will come about. The fact, however, remains that after thirty years of independence universal literacy is only a distant dream yet.

In the days immediately following independence there was a certain amount of enthusiasm for the literacy drive. But as it began to ebb away, a kind of informal understanding seems to have been reached that the best thing would be not to bother too much about literacy but to concentrate on the spread of primary education. Though something has been accomplished in that direction, it would be misleading to accept the publishing figures at their face value.

Young Dropouts

Approximately 60% children drop out before they reach the fifth standard. Those who drop out may be regarded as not having really attended. A child would hardly become literate if he dropped out by the age of 8 or 9. If he were to stay on till about 10 or 11 one could reasonably hope that he would not, in later life, lapse into illiteracy. According to the published figures, 86% of the relevant age group are enrolled in primary schools. Would it not be more accurate to say that 26.6% or, say, only one-quarter of the total eligible—are really enrolled in primary schools? To put it no more strongly, what we have accomplished in terms of social justice during these thirty years is to make at best only a quarter of the children literate and leave the rest to their fate. Clearly, adult illiteracy is here to stay.

It should not have been necessary to analyse this at length but for the misleading idea that if primary education were to succeed, in course of time everybody would become literate. That is not going to happen because primary education is highly restrictive in scope. And most parents are too poor to send their children to school. What is more, they do not see any likely improvement in their situation if children do become literate.

The task is immense, while the resources available are limited. Approximately 40% of the primary schools are one-teacher schools. And only a few of them have suitable buildings and other facilities. Secondly, the spread of primary education is no substitute for adult education on a mass scale. Should it be necessary to make a choice between two strategies, the country should opt for a mass campaign for the eradication of illiteracy rather than the existing wasteful and inefficient system of primary education. Primary education has, of course, to go on, but to rely on it for making everyone literate even in the long run is neither good economics nor good pedagogy.

This is easier said than done. Adult education is best undertaken through voluntary effort and through non-formal means of education. Voluntary effort however implies social and political mobilisation on a large scale. No political party in all these years has been attracted by this proposition. Countries like Cuba, Algeria and Vietnam have in recent decades successfully made the greater bulk of the population literate. The rest of the Third World countries, including India, have been mainly talking about it. If mass illiteracy has been eradicated in some countries and not in others, the explanation lies in the fact that high priority was given to it in those countries and the effort was backed by political commitment as well as mobilisation of resources, both financial and human.

Warped Priorities

The stark neglect of elementary and adult education is not accidental. It is a part of how our polity is organised and the strategy of development adopted by the country during the last three decades. The middle classes are vocal and know how to operate the levers of power. (As a matter of fact, there is a close liaison between educational entrepreneurs and political leaders—more than 50% of colleges in India have an enrolment of less than 400 students. According to the incomplete data of the Third Educational Survey carried out in 1975, out of 3,856 colleges covered, as many as 776 colleges have an enrolment of less than 100. Another 682 range between 100 and 200.) Whatever facilities they want they are usually able to get. Targets in respect of lower levels of education are seldom fulfilled, while in the case of tertiary education, they are always exceeded.

The share of higher education as recently as 1971-72 was a little over 10% of the total expenditure. By 1976-77 it had crossed 14% of the total. What is more revealing however is the importance given to university education in the Fifth Plan allocations. The percentage has gone up to 22.7 of the total education, while what is available to secondary education is only 19.5%. If the figure of technical education (12.1%) is combined with university education (22.7%), the joint total exceeds the outlay on elementary education (31.9%). This indicates the direction in which further expansion is being made.

One would not have much to say about this over-investment in higher and professional education if only our achievements were satisfactory. The situation in this regard, however, is both uneven and unsatisfactory. Though some institutions and individuals have earned international esteem, the number of such persons of whom the country can really be proud is not more than a couple of hundred. Add to that those working in the field of scientific and industrial research and the figure would go up 2-3 times, but it would still not exceed a thousand. Then there is the intermediate sector of a hundred or more university departments and a hundred or so colleges which are doing useful work—the rest of the lot, however, are mediocrities. More than 50% of the colleges referred to above belong to this category.

Power-Hungry Pedagogues

A large number of university departments are manned by people whose principal justification for being there is to have successfully manipulated those who had the authority to appoint them. These people are so numerous and so sleeplessly active in pursuit of their petty ambitions that the good and competent are more or less marginal to the university scene. In case anyone regards this as a piece of exaggeration let him ask himself one question: who sets the tone in these academic institutions? Is it the competent ones or is it the rest (who, though divided among themselves for reasons of conflicting interests, are united in one goal: to keep the decision-making in their hands)? It is out of their ranks that we got the bulk of our administrators, members of various committees, members of delegations going abroad and such other positions of power and influence.

We have, thus, created two sectors of higher education with very little of interaction between the two: there is an elite group whose achievements are comparable with the best in the world. While it is difficult to quantify, this hardly constitutes 4-5%of the total education effort. The remaining 95% or so oscillate between what may be regarded as reasonably satisfactory to what is hopelessly poor and substandard. To have peaks of excellence is a sound educational idea. In academic terms, therefore, one can defend the existing system. However, those who defend the system overlook the ethos of work that prevails in the majority of the non-elite institutions. It is one of grab as you can and utter contempt for anything like professional standards. What matters is the privileges and power that accrue to individuals in a particular set-up. Neither the quality of work that is done nor the total quantum of output is regarded as relevant considerations. Indeed, it is difficult to imagine a system of education where good performance is underrated to the extent it is our system.

Not only that, the country has devised a whole superstructure to support this system in a variety of ways. Once this is recognised it is possible to understand, for instance, the strategy behind the location of educational institutions, the fee structure that prevails all over the country, the rules of recruitment and promotion of the staff and the financial procedures that govern grants to different types of institutions. Each of these is calculated to promote and expand the system. It is through expansion that more jobs are created and promotions can be ensured. How many people know that teaching today is the largest profession in the country. That in terms of professional awareness there is nothing to be excited about it is another matter.

It would be naive to think that this particular bias in education can be corrected through academic efforts. Nothing short of a major surgery in Indian polity would correct the present imbalance against the poor and the dispossessed. But minor surgery is always possible; indeed it is sometimes advisable. Over the decades the system has developed all kinds of irrationalities which impede its functioning and neither contribute to its efficiency nor to its productivity. Some of them may be referred to here.

Plugging the Wastage

One, if the country is spending more than Rs 2,300 crores per year on education, it stands to reason that some research ought to be done to find out how this money is being spent, how wastage can be avoided and how performance can be improved. At the moment perhaps not even Rs 1 crore is being spent on educational research.

Two, there are gross regional variations in respect of expenditure. Delhi with a population of approximately four million spends almost Rs 65 crores per year whereas with a population of 56 million does not spend even Rs 105 crores. Of all Indian States, Bihar has the lowest per capita expenditure on education. This is no way to build the country, nor promote social justice.

Three, approximately 40% of the primary schools have only one teacher. However difficult it might be in financial terms, steps have to be taken to remove this major weakness of elementary education.

Four, competent persons are hardly attracted to the teaching profession. To make matters worse, we fail to train them appropriately. This is one of the weakest links in our educational system. Unless positive steps are taken to attract more talent into training colleges the situation will not improve. It may not be a bad idea to offer new entrants into these colleges an additional bonus of 25% which may be guaranteed to them for a period of ten years. Hopefully, it would attract new talent into this grossly neglected sector of education.

In 1947 a substantial number of school-teachers were untrained. During the last three decades a heroic effort was made to train them. Although the Education Commission (1964-66) recognised the seriousness of the problem and recommended a special grant to strengthen training of teachers, very little was achieved and teacher training today continues to be as dismal and uncreative as it used to be.

Vested Interests

Five, while there is some concern for elementary education and considerable interest in higher education, it is secondary education which is most neglected. That apart, there continues to be a running controversy with regard to its duration. With the addition of two years to school education what is required is large-scale transfer of funds from the tertiary sector to the secondary sector. This is however being sabotaged by the vested interests that have grown up over the years. Unless more funds are diverted to secondary education the situation will continue to be critical.

Six, without some kind of an embargo on further expansion at the tertiary level, the structure of education would get dislocated further. To have a situation where more than 50% of the colleges are not even academically viable is utterly irrational.

10,000 Doctors a Year

Seven, the prevalent fee structure is calculated to help the affluent and not the poor. The rational thing to do is to have higher rates of fees and provide for a large number of exemptions in suitable cases. The situation in some of the technical institutions is particularly disquieting. The state spends almost Rs 20,000 per year per medical graduate. All that a student is required to pay is Rs 250-300 per year. Amongst other things, this contributes to the over-production of highly trained manpower. We produce a little over 10,000 doctors per year. Approximately, 4,000 are employed by the Govenment and the public sector. An equal number or perhaps less than that go into private practice. The rest are unable to find jobs and it is they who migrate abroad. Whether they stay within the country or go abroad is a matter of personal preference. But when large sums of money are spent to educate these students, one cannot afford to be indifferent to the problem. What is true of medical education is equally true of a number of other professional courses. On technical education alone the country spent Rs 50 crores in 1975-76.

Eight, in the student population of 2.5 million in the tertiary sector we have a large concentration of volatile material. Apart from engaging them in the classroom in a perfunctory sort of way for a couple of hours for (on an average) 100 days in the year, there is little that is done to take care of them. This is bad education as well as bad politics. What is required is an extensive network of student services catering for their different needs and requirements. The country spends approximately Rs 70 crores on the National Cadet Corps (NCC), Rs 3 crores on the National Service Scheme (NSS) and perhaps not even that much on sports. When one takes into account the fact that the whole UGC budget is of no greater magnitude than what is being spent on the NCC, one is taken aback at the irrationality of it. That, in the bargain, sports activities are grievously neglected only goes on to show how different agencies of the Government take decisions on their own and there is little effort at coordinated planning

Nine, for about fifteen years enrolment in higher education grew at the rate of 13-14% per year. In no country of the world did at any point of history the rate of expansion go beyond 5—6% per year. Unavoidably, therefore, we paid a heavy price in dilution of standards. Nothing else was so much responsible for low standards as the poor quality of teachers who were recruited into the system. What they imparted to their students could obviously not be better than what they were capable of. To improve their professional competence, now that they are in the profession, is therefore a matter of paramount importance. Though this is recognised what is actually being done is woefully inadequate. The current report of the Comptroller and Auditor-General of India, for instance, refers to the fact that in the UGC budget funds for quantitative expansion in the Fourth Plan period (the Fifth Plan is still in progress) were fully utilised but those meant for qualitative improvement, limited as they were, lapsed to the extent of 50%.

The Carrot and the Stick

Ten, above all, good performance should be rewarded and bad performance penalised. What is happening in our educational institutions is that performance, good or bad, is of no consequence. What is important is the connections one makes and the 'mileage' one travels. The whole process of recruitment and promotion is geared to serve this end. Even those teachers who are well motivated, sooner or later degenerate into a state of cynical apathy. More than anything else it is this lack of professional commitment which is corroding the educational institutions from within.

(*Courtesy*: Illustrated Weekly of India)

Question Choice in Examinations

V. Natarajan

In the 'Examination Reform—A Plan of Action' circulated to all universities in the country, the UGC observed this: "A large body of teachers and educational administrators is not yet fully conscious of the subjectivity, unreliability and lack of validity of the examinations as conducted today". Talking of unreliability, we must clearly understand that the mark given by an examiner is something like a 'raw mark' and it is certainly different from his 'true mark'. Such a raw mark is subject to an error which for some typical papers set at universities (the UGC Report continues) is greater than 5 per cent. This means that when an examiner assigns a mark of 43 the true mark may be either above 48 or below 38 in 50 per cent of the cases. There are many sources of error that contribute to unreliability of our present day examinations. The author* has drawn attention to this and lists the following: a) Error due to subjectivity in marking, b) Error due to biased sampling of topics, c) Error due to biased sampling of abilities d) Error due to allowing students a choice of questions, e) Error due to arbitrary time limits, f) Error due to assumptions in addition of marks. Concluding this section, the author remarks: 'If universities/exam. boards in our country at all levels take steps to indicate along with raw marks in each subject for a student details like mean, standard deviation, reliability coefficient and error in measurement, there will then be no need for any treatment of scores.

It is possible to look at very closely one of the sources of error in traditional essay type examinations that due to allowing students, a choice of questions the presence of question choice in public university examinations of the traditional (essay) kind has been accepted and indeed upheld for many years in India at the University level. The reasons given for the need to allow this choice of questions are many: but two of the most important ones are: (i) it allows the teachers freedom to teach particular portions of the syllabus (in which they may be particularly interested), (2) it allows students to concentrate on particular aspects of topics in which they are able to show themselves to the best of advantage. This has led to the undesirable situation that teachers indulged in dealing with only a few topics in the syllabus leaving the rest for choice and on the other hand students increasingly indulged in 'selective cramming'. Both these have serious implications on teaching-learning, impairing its effectiveness, efficiency, relevance, adequacy and above all purpose. Question choice is still accepted today alongside the adoption of more rigorous methods of examining (e.g. the use of objectiue items) but little thought seems to have been given to the *problems* raised by allowing a choice of questions or even recognizing the fact that complications may occur. Some of these problems are presented here. Before presenting the problems, it is as well to remember the basic assumption that is made (albeit implicitly not explicitly) when using an examination where a choice of questions is presented. This assumption is that a candidate will *be able to be compared* with others taking the same examination whatever combination of questions he attempts on an exam paper. This implies a form of 'currency' (or comparability between individual questions) and hence combinations of questions. The viability and validity of this assumption will be explored now.

The Problems and their Effects

(A) **The Syllabus:** It may be asked whether or not syllabus topics (in their own right) are of the same basic level of difficulty. In general, it is unlikely they are, but such an assumption one way or other could be made only on the basis of a consensus of opinion. Let us consider a few examples. In undergraduate mathematics, a quoting of a principle in complex variable and an example by students and a factorization followed by the solution of a pair of simultaneous equations cannot be considered 'equal' in basic level of difficulty. Here we are considering only the content and nothing else. In Geography again, is the description of industrial growth of an area on a par with naming rivers, hills and features on a map? We are now considering basic complex variable as opposed to solution of simultaneous equation and also a knowledge of industrial growth as opposed to the knowledge of a terrain. It is likely that no agreement is reached regarding an answer to this problem. This is not important but what is important is that as long as this difference of opinion in regard to the 'equality' of subject topics exists, then the 'equality' of the results of candidates attempting these questions may be questioned.

(B) **Abilities:** Let us look at these questions in terms of the 'abilities' they purport to test. Some of them may clearly involve memory and only memory. Yet others do involve 'comprehension' while some others deal with 'application' ability being put to test. How far are we justified to put on par a pair of questions that is definitely known to be testing different 'abilities'? Some questions will involve the students to *translate* information given in one form into another (from verbal to graph). Yet some other questions will involve calculations (after recalling a set of formulae, rules, procedures) and infer from these calculations. Granting that the questions test what they intend to test, then these questions in a paper will be testing different 'abilities', and we are *not* justified to permit 'choice' of these questions. It is necessary therefore to group questions of the same category in terms of equality of ability tested with sections and get students to respond to these sections. The restructured pattern* proposed by AIU (and accepted by many universities) involves in every paper:

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*Natarajan V. —'Monograph on Grading for Universities', AIU, 1976– PP 35-37.

Part A: Objective type 20 to 40 items/20 to 40 mins/20 to 40 marks

Part B: Short answer type 10 to 15 questions/50 to 90 mins/40 to 60 marks

Part C: Long answer essay type 1 to 3 questions/ 20 to 60 mins/15 to 30 marks

Part A may have items (M/C, MF, etc.) all of them testing knowledge/comprehension. Part B may have questions, all of them testing Analysis/Application and Part C may have questions all of them testing synthesis/evaluation. In this, it may be noted that there is no choice in Part A/Part B and there may be internal choice in Part C.

(C) **The Difficulty of Questions:** It has been the practice to allow a choice of questions only in respect of supply type questions whether SA or LA. Where a restructured pattern is in practice, only LA questions give a choice of questions for students. In respect of long answer questions, some of them are inherently more difficult than others. Elsewhere** the author has shown that it is possible to work out a very realistic and accurate difficulty index (or Facility value) for every question in a choice type exam. In fact there are two indices.

F.V. index=50 + (MQ—MT) where MQ = mean percentage mark on the question by those attempting it and MT = mean percentage total mark on the question by those attempting it. This is found to be a 'sample free' technique. If we analyse our choice type exam on this basis, we will come up very quickly that our questions range considerably in F.V. One such analysis is given below:

Choice type exam. with question No.II compulsory and any 5 to be answered in 7 questions. Totally there are 8 questions. Question No. 1 carries 15 marks and question No. II to question No. VIII—10 marks each.

QN NO.	I	II	III	IV	V	VI	VII	VIII
MQ	77.3	71.5	72.8	51.9	15.0	57.5	31.9	61.7
MT	63.13	66.0	63.7	74.3	52.7	63.4	58.8	63.13
(50+MQ—MT) = F.V.	64.0	55.5	59.1	27.6	12.3	44.1	23.1	48.57

It has been argued that the difficulty of a question (or F.V.) is a function of both different ability groups attempting different questions and also leniency and severity of marking. Another important thing we are concerned with here is that supposing question III is taken in the above situation (forming a part of the choice exam) and its Facility Value as such compared with its F.V. of the question were to appear in a No Choice exam, we find that different values result. Certainly, 'choice' or 'no choice', different questions have Facility Values. To imagine that they are all equal and to give a *choice* of questions to students is extremely misleading and unjustified to say the least.

(D) **Validity:** In achievement examinations, we are principally concerned with content validity. It is easily appreciated that 10 questions or so will not be able to cover 100% of the syllabus. Very often the coverage will not exceed 80% of topics. In our traditional papers, the usual practice is to give 10 questions and ask students to answer 5 out of these. Immediately the validity is reduced to 40%. If we set pass mark in this paper as 35 out of 100, it really means that a person who has mastered just $0.35 \times 40 = 14\%$ of syllabus is declared passed. In contrast to this situation, we consider our restructured pattern:

Part A	20 to 40 items	No choice
Part B	10 to 15 questions	

and Part C 1 to 3 questions with *internal* choice, if any, then it can be seen that at the first place, the content validity of the paper is considerably increased say 90 to 95% and almost all questions are compulsory. Thereby, the validity remains more or less 90%. It is also usual practice to increase the minimum marks for a pass to 40 or very often 50 in such a restructured paper. The overall validity for passing comes out to 45% as opposed to 14%.

(E) **Reliability:** When we consider the reliability of a choice type examination compared to that of a no choice type, many things can be said. The overall reliability or the index of measurement efficiency is very high in a no choice type, since the number of items are more and the ratio of error variance to observed variance is very small. The internal consistency reliability of a no choice is also more than that of a corresponding choice type examination. However, it must be said that it is much more complicated to calculate reliability of a choice type compared to no choice type.

(F) **Uniformity:** 5 questions out of 10 can be

(*Continued on page 561*)

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*'A Restructured Pattern of Exams for Universities', Natarajan V, University News, AIU, Delhi.

**Natarajan V —'Monograph on Test & Item Analysis for Universities AIU, New Delhi.

Implications of the New Pattern of Education

V. S. Mathur*

The type of education needed for a country depends largely on its national goals and objectives. A healthy education system should support and perpetuate the values of society. It was, therefore, natural that with the coming of independence, the goals of Indian Society and also naturally the goals of the Indian Education system should have undergone a change. The Indian Constitution provides the national objectives of Equality of Educational Opportunity as well as universal elementary education. Nobody can be denied the right of education, elementary, secondary as well as higher education.

Equality of educational opportunity does not mean uniformity in the content and variety of education to be provided to all the individuals. It is only commonsense that any sensible educational system should cater to the individual needs and potentialities and aptitudes. All those who come out for such an education system should be in a position to make their contribution towards national development.

The Retrospect

The education system initiated by the British in 1835 as a result of the Macaulay's Minute was designed to meet the very narrow requirement of administration. It was also unfortunately linked up with government employment. Besides being purely bookish and academic, it had the disadvantage of being imparted through the medium of a foreign language. And above all, it was meant for a small minority of the population because the foreign ruler was not interested in education for the sake of education or in education as an instrument of social change.

Attempts have been made in free India to modify the educational system in such a way that it is able to meet the essential requirements in larger measures. In 1948-49 the University Education Commission went into the problem of Higher Education under the inspiring leadership of Dr. Radhakrishnan. Amongst other recommendations they suggested a Eleven Year or Twelve Year Higher Secondary Course followed by a Three Year Degree Course.

In 1952-54 another Commission went into the prolem of Secondary Education and as a result of its recommendations the Eleven Year Higher Secondary Course of a diversified nature was initiated followed by a Three Year Degree Course. The idea was to provide a number of streams after a delta stage. However, unlike as planned, a majority of the students opted for academic courses leading to the university and the idea of a large number of young people opting for professional courses, did not materialise.

The entire position was again reviewed by the National Education Commission during 1964-66. It was observed that at that time four main patterns of school and college education were prevalent in the country:

1. In Kerala the pattern of 10+2+3 had been adopted, with the two-year stage being located in junior colleges.
2. The pattern of 10+2+3 prevailed only in Uttar Pradesh.
3. The pattern of 11+3 prevailed in the Delhi Union Territory and the State of Madhya Pradesh.
4. In other states two parallel systems prevailed:
    - (a) 10+1+3 and
    - (b) 11+3.

There was some vocationalisation in the 11-year course, but enrolment to such courses was meagre.

The New Pattern

This chaotic situation was found to be most unsatisfactory and the Commission was emphatic in its recommendation that a uniform 10+2+3 school and college system would not only bring about the desired educational uniformity in the whole country but may also meet the requirements of the individual and those of the society. This recommendation was studied thoroughly by the various agencies in 1968. The National Educational Policy Resolution accepted the above recommendation and this was later on also commended by the Central Advisory Board for Education for countrywide implementation.

According to the new pattern the school stage consists of:

(a) Ten Year common schooling and
(b) Two Year Higher Secondary Course.

This was to be followed by a Three Year Degree Course. It was envisaged that every effort should be made to vocationalise the +2 stage and it was visualised that more than 50 per cent of the students would opt for vocational courses. These courses were to be so designed that the candidate could thereafter either go on to higher professional courses or go in for jobs.

The pattern is being introduced in most of the States although things do not seem to be very clear about the +2 stage.

Ten Year Schooling

The N.C.E.R.T. was quick to evolve the framework of the curriculum for the Ten Year Schooling.

**Professor of Education, H.P. University, Simla.*

The same was accepted at a consensus in August, 1975. The main features of their scheme are:

(a) The three language formula has been implemented with sincerity all through.

(b) Science and Mathematics have been made compulsory upto Class 10th. The curriculum has been so devised as to help to productivity and prepare the children for competent participation in the various national tasks.

(c) Work experience has been included as a compulsory activity at all levels. It is hoped that this should provide learning opportunities to the children besides augmenting social and productive outlook.

(d) Art, Drawing and Painting have also been included as compulsory subjects with a view to develop aesthetic and artistic taste among children.

(e) Games and Physical Education have also been made compulsory.

Out of these, work experience, arts and games are to be evaluated internally.

Work experience has been advocated in the past also for two reasons. Firstly, it has been felt that work is the greatest social equaliser and secondly that work experience helps to make education useful in practical life. It is envisaged that every institution would select four or five work items most suitable to the locality and catering to the potentialities of the students. It is also accepted that work experience will be no blind alley but will be followed by vocational streams in the 11th and 12th classes.

The Central Board of Secondary Education has suggested a large number of work experience items and it is expected that organisations/institutions may also think out their own items included in the list.

India is an agricultural country and it is expected that schools would largely go in for items like agriculture, gardening, horticulture, floriculture and such like items according to the situation. Six periods per week have been allotted for work experience including both theory and practical, although emphasis will be more on practical work.

In order to make work experience in agriculture more effective, it will be better if at least one properly trained agriculture teacher is provided in every school. During the interim period, science teachers with Botany as one of their subjects may be properly reoriented.

Every school, as far as possible, will have to be given some land and some agricultural facilities to carry out work experience in agricultural items. Wherever it is not possible to provide, technical facilities help could be taken from a nearby farm. There should be no problem of attaching small farms to the schools in rural and semi-rural areas. The syllabus in agriculture and allied items should be so framed that most of the important items of agriculture and allied areas are included.

Further it is very necessary that the same work experience items be continued from class to class so that when a child completes the Ten Year Schooling, he is in a position to have good knowledge both theoretically and practically about his area of interest.

In the matter of re-orienting teachers to agricultural items, help should be taken from the various agriculture colleges as well as from the various University Departments/Complexes in agriculture maintained by them. The agricultural universities and colleges are duty bound to help not only in orienting teachers but also in providing in-service education for teachers already trained in agriculture. It may be further advantage if the universities and agriculture colleges share their know-how and their equipment with the neighbouring institutions.

+2 Stage

The +2 stage is the crucial stage in the new pattern and it has to be planned and handled with care and caution. The main thrust at this stage is on vocationalisation. As the first step, it is necessary to have a survey of the employment pattern and the needs of the local community. It will be idle to have vocational courses without judging their economic relevance to the locality. When we think of vocationalising higher secondary education, we automatically are confronted with questions such as how will this differ from vocational education imparted in some of our vocational training colleges and polytechnics as well as in agriculture colleges etc.

It has to be understood at once that vocational education at the +2 stage goes as an inbuilt component of general education. The Two Year vocational courses may roughly be divided into about 30 per cent general content and 70 per cent professional content including practical work.

The courses have to be so designed that they should be self-sufficient for those who want to join a profession as also for those who want to pursue higher professional studies. They should be able to provide the necessary background. The products of this system should be acceptable to the consumer. In subjects like agriculture it may be better to have a family of vocations from which courses may be selected to develop a broader base and to help in future adoption of careers from a wider field.

The +2 stage will according to present thinking, be a part of the school. This can be done in two ways either by adding vocational courses to an ordinary high school or by converting the existing agriculture schools and other vocational centres into higher secondary schools by adding a few academic courses.

In order to have smooth running of such courses sharing of know-how and equipment, between the school system and the universities and colleges especially with the faculties of agriculture, engineering, business management etc. comes necessary. It also becomes very natural that vocationalisation of education at the secondary stage be treated as a cooperative endeavour between the various departments and institutions functioning in every State and in the various localities.

Another important problem that we will have to face is to have an adequate number of vocational teachers. It may be better if one of the top persons that is either the Principal or the Vice-Principal is a technical person. In subjects like agriculture it may be feasible to borrow the services of suitable trained persons from the agriculture departments. In certain cases help could be taken from an enlightened farmer or horticulturist functioning locally. In many cases suitable institutions like agriculture colleges, departments of agriculture in universities, agriculture universities etc. will have to take up the responsibility for training suitable teachers and also for initiating inservice programmes at regular intervals.

Then there is the question of evaluation at the vocational levels. The NCERT has suggested the semestar system as well as a system of grades and credits. There is also provision for shifting to other streams through bridge courses. Bridge courses will also have to be provided for those wanting to go in for higher education at a later stage.

The academic courses will also have to be enriched in content and depth so as to provide strong background for the +3 stage in the colleges and the universities. Some work orientation has to be included in the academic courses also mainly as hobbies. These will have to be creative in nature and not mechanical.

+3 Stage

The introduction of 3-Year Degree Courses after 12-Year schooling is intended to upgrade the degree courses specially in areas where the first degree was hitherto given after 14 years. Even the content in areas already having 15 year courses, will have to be enriched sufficiently. The +3 stage will have to provide a strong base for research. Some screening will have to be made an integral part of any suitable admission procedures for the +3 stage. Automatic admissions will defeat the very philosophy.

The ad hoc via media of instituting 2-year pass degree courses and 3-Year Honours Courses, suggested in some quarters seems to be a poor compromise and may put some people at a disadvantage. We have to urgently think of regular 3-Year Degree Courses and work towards that end.

Then the question arises that what will happen to those who come out of +2 academic courses but who either don't join the +3 stage and those who are found unfit for admission. They will have to be absorbed in certain jobs or given opportunities to go in for semi-technical courses like stenography etc. So far no attention has been given to this aspect. Akin to this is proper provision for those who are not in a position to continue studies after the 10-Year schooling. These questions have to be answered immediately to avoid chaos and frustration.

It must be realised at once that vocationalisation is intended to be a major dimension of the new school education system and it will not be possible to achieve it without initiating significant structural and functional changes in the whole set up. Much will also depend on instructional materials to be developed pertaining to the various courses. And above all, there has to be a freshness and flexibility in the entire system. It may also be worthwhile to give a second thought to the employment procedures prevalent in the country. And above all teacher education procedures have to be revamped. There is need to proceed with sagacity and caution. We cannot play with a thing, like education. The new pattern is not arithmatic. ❏

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Asoka Rock edicts discovered in Bellary

(From Our Special Correspondent)

Nittur, a village on the south-western bank of the Tungabhadra in Siruguppa taluk of Bellary district in Karnataka, has been put on the map of the Mauryan Empire by the discovery of two edicts issued by Emperor Asoka (3rd century B.C.).

The edicts were discovered recently by Dr. S. Settar, Professor of History and Archaeology in Karnatak University and Director of the Institute of Indian Art History, Dharwar, and his colleague, Dr. S. Rajasekhara.

The edicts, carved on pink rockboulders, closely resemble the minor rock edicts issued by the Mauryan Emperor in 3rd century B.C. and preach "Dhamma." According to Dr. Settar, a unique feature of these records is that both mention the name "Raia Asoka", a fact which was confined to only two records, one of them being at Maski in Raichur district of Karnataka, so far. Of more than 30 edicts of Asoka found so far, only two refer to him by name, while the rest refer to him as "Devanampiya-Piyadasi." The inscriptions now found add two more instances to the name "Asoka", he said.

Dr. Settar says that these records are written in Brahmi script, measuring about six inches in height. The first record, named, Nittur I, runs into six lines covering a space of about 19 ft. The height of the edict is about 4 ft. The second edict (Nittur II) runs into five lines and covers the rock surface of about 20 ft. The height of this record is about 3 ft. The records are partly damaged by weathering. The two edicts are about 50 ft apart.

Dr. Settar and Dr Rajasekhara, assisted by two research assistants, have just completed deciphering the edicts which, they feel, bridges the gap that existed till now between the Neolithic (10th-8th century B.C.) and Satavahana (1st century B.C.) periods.

One of the edicts is addressed to the frontier subjects of the Mauryan Empire. Asoka commands that, after 256 days of pilgrimage and after spending two and a half years as 'Upasaka' (worshipper), he would like it to be known that the attainment of the state of godhood is not only reached by a person of high rank alone but, indeed, even a lowly person can attain the great heaven if he is zealous.

The second inscription is primarily concerned with the propagation of the socio-religious mission called 'porana-pokiti' (the ancient rule). Reverence to father, mother and elders are specified. Both inscriptions are in Prakrit language.

CAMPUS NEWS

Roorkee introduces letter grade system

A system of evaluating the performance of students, described as letter-grade system, is being progressively introduced in the University of Roorkee. It will replace the conventional evaluation on the basis of which successful examinees are categorised into first, second and third divisions. The letter grade system will be introduced from the next academic session from the first to the last year of each course of study in the university and the examination results of all students would be graded by symbols A,B,C,D or F—A standing for excellent, B for very good, C for good, D for satisfactory and F for fail. The grading will be related to the total percentage of marks in a given subject by an absolute and a relative standard. According to absolute standard the grades will be—80 per cent marks or above—'A' Grade; 65 to less than 80 per cent marks—'B' Grade; 50 to less than 65 per cent marks-'C' Grade; 35 to less than 50 per cent marks—'D' Grade; and below 35 per cent marks—'F' Grade.

The relative standard will be based on the mean and standard deviation of percentages at different examinations. Ordinarily the percentage weight to semester examination and sessional work done during the semester would be 50.50. At the end of each semester, every student will be communicated his semester grade point average—four grade points standing for 'A' grade, three for 'B' grade, two for 'C' grade, one for 'D' grade and zero for 'F' grade.

Similarly yearly and cumulative grade point average will be communicated to all students at the end of each academic year. For a month after the declaration of results, a student will have the option to request for re-checking his answer scripts of the semester examination of a particular subject and re-assessment of his letter grade.

Osmania dental college upgraded

The dental wing attached to the Osmania Medical College would soon be upgraded to a full-fledged dental College. This announcement was made by Mr. K. Rajamallu, Health Minister of Andhra Pradesh while speaking at the inaugural function of the dental health week. The Minister said that the college block would be constructed soon. The college would have 33 seats of which 5 would be allotted to the Government of India and the remaining seats would be divided among three universities in the State. Every year 15 dental graduates would be given employment in the State. All specialities including dental would be provided in all district headquarter hospitals, taluk hospitals and primary health centres so that the medical aid reached nearer to the masses.

Centre for problems of Harijans

A centre of socio-economic studies is proposed to be established in Madras as a memorial to Sardar Patel. The centre, while collaborating with similar bodies in other parts of the country, will concentrate on socio-economic problems of the weaker sections of the society, especially Harijans, and the peasantry. Dr. V. Shanmugasundaram, Professor of Economics, Madras University, will be the honorary director of the centre.

Ecological planning of the Western Ghats

The National Committee on Environmental Planning and Coordination has set up a task force for the proper ecological planning of the Western Ghat region. The ecological stability of the region, extending from the southernmost part of Gujarat right down to Kanyakumari, parallel to the west coast, is considered crucial to the economy of Indian peninsula. The ecological stability of the region depends mainly on the maintenance of the forest cover and that cover is now being seriously threatened by agricultural, mining, hydel, irrigation and industrial projects. Consequently, one of the efforts of the task force would be to render advice regarding location of such projects so that their undesirable impact on ecology could be minimised. It could also suggest positive ways and means for maintenance of the tree cover and other ecological elements. The climate, topography and soils of the Western Ghat region are best suited for forestry which needs organised efforts for its development. In this context the project of the World Bank forestry developments started three years ago in the districts of Maharashtra have assumed a special significance.

National fellowship for Dr. Ganguli

Dr. Anil Kumar Ganguli, Director, Chamical Group of the Bhabha Atomic Research Centre (BARC) has been selected for the award of National Fellowship on Environmental Sciences by the Department of Science and Technology.

The fellowship was instituted recently by the department on the recommendation of the National Committee on Environmental Planning and Coordination.

Dr. Ganguli has been responsible for developing environmental safety programmes for atomic energy operations in India. He will conduct research during the two years' fellowship on environmental sciences, particularly on application of nuclear techniques and prediction modeling investigations on the movement of aquatic and crystal material of earth's surface and study of industry and environment.

The fellowship carries payment of Rs. 2,500 per month for two years. In addition, the fellow will be paid Rs. 10,000 per year for research work and Rs 5,000 towards contingent expenses.

Dhanvantari award for Dr. Mody

Dr. M.B. Mody, 78-year old doyan of chest physicians in Bombay has been awarded the Dhanvantari Award for being the outstanding medical man of the year by the Dhanvantari Foundation.

The award was instituted by the foundation in 1973. Dr. Rustom Jal Vakil was the first recipient. Last year the award was presented to the eminent surgeon Dr Shantilal J. Mehta. The award this year would be presented on 6th November in Bombay. A symposium on "Cancer—a challange to medical science" will also be organised on this occasion. Dr. J.C. Paymaster will be the moderator of the seminar.

Dr. Mody has spent over half a century alleviating human sufferings with a missionary zeal. He is the Patron President of the International Conference on International Medicine.

Education-oriented jobs

Dr. P. C. Chunder while inaugurating the special mid-term conference of the Boards of Secondary Education in India in Madras said that in addition to job-oriented education, provision must be made for education-oriented jobs whereby drop-outs from the school can contribute to family income and also continue their education. The Minister informed that the interim report of the review committee to scrutinise the syllabi of secondary education had been submitted in the Ministry of Education and the full report was expected in another month's time. Dr. Chunder said that the study load on secondary education pupils was vere heavy. He was tempted to ask "why burden the students in their few hours at school with facts and figures" when many other media for learning, such as newspapers, radio, T.V were available. The fault lay with the system since development of self-expression was impeded by too many subjects being in the syllabi.

Dr. Chunder discouraged too much insistence on bookish learning which has to be brought down if the total personality of the child was to be developed. Referring to new mathematics, he said he shuddered whenever he looked at the new mathematics text books. In U.S.A. there were second thought about this subject because some parents had complained that they had to send their children for psychiatric treatment on account of new mathematics. The Minister said that he had no objection to students going in for engineering subjects taking up new mathematics. The syllabus and subjects must be related to the needs of the students and there was no point in making all students study certain subjects. We must offer choice to students why should we be afraid of doing so. He said after a few years of general study there must be scope for specialisation.

Dr. Chunder regretted that many students at the college level lacked essential skills like communication ability and language proficiency. Education was linked with life and as life changed, education must also change. A child even before going to the school had certain ideas planted in his head and we can perceive the seeds in the early years, they germinate in the primary schools, shoot the trunks in secondary schools after which branches could be developed. Dr. Chunder referred to the new debate on education throughtout the country and said education cannot depend on the whim of a particular individual or group of individuals and in a big country like India it might not be possible or desirable to have uniformity.

The same types of problems as in our country could be found at the international level, Dr. Chunder pointed out referring to his recent visit to Switzerland for attending the Unesco Conference. Throughout the world it was accepted that education must be related to life and our policies ought to be flexible. This did not mean that there should be total anarchy. A human approach to education to meet the basic needs of man was required.

Referring to the 10+2+3 pattern of education, Dr. Chunder said that the terms like school final, higher secondary can as well be used, he added. He warned that the whole system would be a total failure if the product of education was either unemployed or unemployable, whatever be the period of education.

The Tamil Nadu Education Minister, Mr. C. Aranganayagan referred to the need to consult the professional teacher in matters related to education. He said education was a great leveller and it was upto educationists to usher in the millenium for the masses. The importance of work-based education was also stressed by him. Mr. C. G. Rangabashyam, Education Secretary of Tamil Nadu urged the delegates to draw up schemes which would dovetail the drop-outs in the educational system. He would strongly commend the method of multiple point entry and the objective of universalisation of primary education. Vocationalisation in the higher secondary stage should not be only at the theoretical stage but concrete methods should be thought of.

Incentives for top rank graduates

Graduates obtaining top position in various faculties of the four universities in Karnataka would receive a cash award of Rs 1,000 each from the State Youth Services Board annually. The Director of Youth Services, Mr. Jogendar Singh while making this announcement said that the Board has set aside Rs. 75,000 annually for this purpose.

Bombay to introduce M. S. in cancer science

The University of Bombay will be the first in Asia to introduce the Master of Surgery Degree Course in Oncology (Science of cancer) from the next academic year. Dr. D. J. Jussawalla, eminent cancer specialist and Director of Tata Memorial Centre, said that it was high time that a separate cancer department was opened in the medical colleges in the country for teaching of oncology. In none of the Asian countries except Japan the medical colleges have a separate department for the teaching in cancer sciences.

Osmania medical college plans for golden jubilee

The Osmania Medical College would be celebrating the golden jubilee in November 1977. Dr. G. Narsing Rao, Principal of the college said that it is proposed to build a guest house at a cost of Rupees two lakhs to mark the golden jubilee celebrations of the college. It was also proposed to conduct annual operation programme on scientific subjects and to diversify the research activities. An inter-medical college sports festival would be held in Hyderabad as part of the jubilee celebrations. An inter-medical college youth festival would also be organised in which medical students from all over the country would participate. The college is currently organising exhibition showing the letest developments in the sphere of medical health and family welfare programmes.

Reddy stresses the role of research work

Prof. G. Ram Reddy, Vice-Chancellor of Osmania University, while inaugurating "Vivek" a forum for teachers and research scholars sponsored by the Hindi Department of the University said that the research scholars had developed certain wrong notions about their work. Prof. Reddy said research is a science and depricated the tendency on the part of students going for research work just for the sake of obtaining degrees. He stressed the need to widen the base of research work and wanted the academician not to take a narrow view of the research. He pleaded for inter-disciplinary approach to research and literature.

Reserved seats for handicapped

Dr. P.C. Chunder, Union Minister for Education and Social Welfare has made an appeal to the Vice-Chancellors of the universities all over the country to reserve three percent of their seats for physically handicapped students. Under this category, the blind, deaf and orthopaedically handicapped students would be covered. Dr. Chunder, the Education Minister, has further assured the universities that the Centre would give cent per cent assistance to the universities for the education of the handicapped students under the Centrally sponsored scheme of integrated educational programme.

Medical university proposed for U.P.

Mr. Kalyan Singh, the Health Minister of Uttar Pradesh announced in the State Assembly that the Government was considering the proposal to establish a medical university. Its syllabus would embrace the different prevalent systems like allopathy, homoeopathy, ayurveda, unani and naturopathy. There was a dearth of both male and female doctors in the state. The establishment of a medical university would therefore be a welcome step. Efforts are also being made by the government so that no hospital remained without a doctor in the near future.

Patna institutes business management courses

The diploma course in Business Management was inaugurated by Dr. A.K. Dhan, Vice-Chancellor of Patna University at the Darbhanga House. The course is being sponsored by the Postgraduate Department of Applied Economics and Commerce of the university. Dr. Dhan said that the students joining the course should fully utilise their knowledge not for their own gain but for making an improvement in the trade and commerce of the country. Though it was a job-oriented education, its objective should be to improve the methods of business in every respect and for expanding the scope for industrial development. The Vice-Chancellor hoped that the trainees would develop into good entrepreneurs and would start new enterprises in order to increase the existing flow of goods and services in the country.

Dr. N.L. Nadda, Head of the Postgraduate Department of Applied Economics and Commerce explained the importance of the course. He said that the self-paying course launched by the department had attracted over 1200 applications for enrolment. The Faculty of Commerce had now prepared a full-fledged scheme of Master's course in Business Management which is being considered by the Regulations Committee of the university. He hoped that the course would be instituted soon and would be the first of its kind in the State. In order to meet the requirements of the growing faculty of commerce, he pleaded for a separate campus where the training school premises could also be located.

Principles of management, planning, coordination, organisation, control, communication, managerial economics, management accounting, financial management, personnel management etc. would be covered under the one-year diploma course.

Punjab releases Rs. 97 lakhs to meet UGC grade arrears

The Punjab Education Minister, Mr. Sukhjinder Singh announced in Chandigarh recently that the University Grants Commission grade arrears of about Rs 97.24 lakhs would be paid to the universities and government and non-government colleges for the period April 1, 1975 to March 31, 1977 in spite of the financial constraints. The grants would be continued during the financial year. More than 4,000 teachers of 35 government colleges and 125 private colleges affiliated to the Guru Nanak Dev and Punjabi Universities would be benefited by the release of these grants.

The Government has also agreed to release the new UGC grades to all principals and lecturers including those of privately-affiliated colleges in the State with effect from January 1, 1973.

U.P. allows students' unions in colleges

The Uttar Pradesh Government has decided to allow the college students to form their Chhatra Parishads (Students Union) as such co-curricular activities have a special role in achieving overall development of students. With this object in view, associations relating to various subjects and different kinds of clubs etc. have also been permitted to operate so that full opportunity is provided to students to develop their talents. Those students who desire to become members of Chhatra Parishad can do so voluntarily. The office bearers of Chhatra Parishad can also voluntarily raise subscriptions from amongst their members for carrying out the activities of the Parishad. Accounts in regard to this subscription may be kept by them separately. The Head of the Institution can as Patron, provide necessary guidance to the Chhatra Parishad.

Common curricula for Bihar universities

All the universities in Bihar will soon have a common curriculum in the Faculties of Law, Engineering and Medical education from the next academic session. This decision was taken at a meeting of the Vice-Chancellors of different universities held under the auspices of Bihar State Inter-University Board. The vice-chancellors discussed the recommendations of the different committees on curriculum changes set up by the board. The recommendations relating to changes in law, engineering and medical education were accepted by the vice-chancellors. The curricula in these faculties had been revised according to the guidelines laid down by the Indian Bar Council and Indian Medical Council and other national bodies.

New site for Narendra Dev University

Narendra Dev University of Agriculture and Technology has failed to locate a suitable campus site. The university was to acquire a campus of its own. Different proposals have been suggested in this regard. The State Government initially has proposed a site near Masodha about 7 kms from Faizabad city. But recently on re-thinking the site near Kumarganj village situated at a distance of 40 kms was developed for this purppose. Dr. M.S. Randhawa recently visited the university and he has given his preference for the site near Masodha.

Plea for Indianising universities

Prof. Ram Joshi, Vice-Chancellor of Bombay University, said in Bombay that universities should Indianise themselves in order to tackle problems facing the country. He was speaking at the seminar on education organised by the Somaiya College of Arts and Science in celebration of the Bombay University's 120th anniversary. Prof. Joshi said that higher education in India is still being modelled on London School of Economics and Universities like Oxford and Cambridge. These institutions are alien in our context. Prof. Joshi felt that universities all over the country were in the midst of an "identity crisis" and were grouping in the dark to discover themselves. The entire system, the examinations, syllabi and the teaching is out of date.

The State Education Minister, Mrs. Pratibha Patil said that the new education system was in keeping with the needs of society and had been based on advice by experts and it was in keeping with the national policy. She said that vocational courses had not been introduced at the plus two stage because of the financial constraints. She hoped that they would be incorporated when more resources were available. Dr. Madhuri Shah, Vice-Chancellor, SNDT Women's University said that women still went to the traditional faculties of study. Dr. Shah said that the humanistic aspect and individual inspirations had always been neglected in education.

UNESCO Conference on Environmental Education

Inter-governmental Conference on Environmental Education would be held in Toilisi, Russia from October 14 to 26, 1977. Dr. (Smt.) Madhuri R. Shah, Vice-Chancellor. S.N.D.T. Women's University, Bombay would represent the Government of India at the conference. The purpose of this conference is to make recommendations concerning measures which can be envisaged at the national, regional and international levels to promote education in this very important but hitherto neglected field. This is of vital importance for the health and well-being of mankind.

Dr. Madhuri Shah will discuss major environmental problems in contemporary society, the current efforts made in this direction, the role of education is facing the challenges of environmental education through both formal and non-formal channels, and the strategies for development of such programmes at the national level. The needs and modalities for regional, international cooperation for the development of environmental education is also an important item on the agenda of the conference.

Means and measures to reinforce UNESCO's current efforts in the field of environmental education in the framework of the country's own educational programmes, the potential contribution of activities in the field of the natural sciences, the social sciences, culture and communication will be discussed and planned out.

AIFUCTO deputation meets Dr. Chunder

Dr. P.C. Chunder, Union Education Minister, received a deputation of All-India Federation of University and College Teachers Organisation recently in New Delhi. He informed the teachers that the University Grants Commission has now allowed the universities to decide about the remuneration to be paid to examiners in accordance with the local conditions prevailing at different places.

The deputationists however reemphasised their demand for the enforcement of the statutory security of services for teachers. It was pointed out that Punjab and West Bengal governments have already provided such a cover to their teachers. The deputationists also urged the Minister to either request all the State Governments to introduce similar legislations or introduce such a measure in the Parliament. Dr. Chunder said that constitutionally it would not be advisable to do so as it could not be taken for granted that education would continue to be on the concurrent list, since the future of the 42nd constitutional amendment was still under consideration.

The deputationists also wanted to put special stress on the representation of their federation and other national teacher organisations on all important academic bodies beginning with the University Grants Commission. Though eminent teachers were now represented in that body but the teaching bodies were not given proper representation. They wanted elected teachers also to be adequately represented on the boards of colleges and universities. The elected members should constitute the majority of these bodies and not the ex-officio members as was the case now. The Federation also wanted representation for teachers, students and non-teaching employees on such bodies. The Minister agreed that there was a need for reduction in the number of nominated members in such bodies but whether the elected elements of teachers should form the majority was still an open question.

Other issues discussed were: direct payment to teachers of all their emoluments by the Government and upgrading of scales of directors of physical education and librarians so that there was a parity of scales with those of teachers. The Minister assured that he would take up these matters with the University Grants Commission.

Corrigendum

In the last issue of University News, the item on page No. 532 may be read as Bio- sciences Department inaugurated at Vallabh Vidyanagar instead of at Surat.

Radhakrishnan Study Centres

Prof. K.S. Murti, Vice-Chancellor, Sri Venkateswara University has made a proposal to set up Dr. Radhakrishnan Study Centres in different parts of the country. Efforts have been made at the unofficial level to establish such centres attached to Calcutta, Madras, Mysore, Andhra and some other universities for study and research on subjects in which the former President of India was interested.

Prof. Satchidananda Murti was inaugurating the 19th All-India Seminar on the Philosophy of Dr. Radhakrishnan in connection with the golden jubilee of the Philosophy Department of the Madras University. Prof. Murti explained at length the contributions of Dr. Radhakrishnan in restoring spritual values. In this process he said that Dr. Radhakrishnan influenced the realms of politics, education and administration by his innumerable lectures.

Dr. Radhakrishnan did not belong to a particular school of philosophy. His writings covered a wide range of thought and streams. He was interested in the philosophy of cultures. He had made valuable observations on dialectical materialism and laid emphasis on democracy and socialism. Prof. Murty called upon philosophers to tackle the problems posed by science and technology. He felt that 'the individual should not be the object of change but the instrument for bringing about changes. He stressed the need for injecting ethical values into the daily life of the nation. A spiritual, and not political revolution should bring about changes leading to a life of austerity and simplicity expounded by Gandhiji and others.

Question Choice in Examinations

(*Continued from page 552*)

chosen in $10C_5 = 252$ different ways. There is in fact 252 different combinations in different papers. Performances by students in this situation can *never* be compared. There is uniform injustice shown to students.

Some of the problems (and their effects) relevant to allowing a choice of questions on examination papers have been presented here. At the same time it has been demonstrated that as far as *all* the problems are concerned, different rules will apply to different candidates since they all attempt different combinations of questions. The syllabus content, the ability, facility value are all bound to *affect* the marks of those taking it; in the situation where choice is presented, however, depending on the combinations, these factors will have an (*unknown differential*) effect. It is this unknown effect working in a different manner from one student to another that causes the greatest uncertainty in accepting the results from a choice type exam.

From time to time, certain ad hoc solutions have been suggested for this problem. The earliest one to be adopted was to have the paper divided into sections and choice allowed within sections. Another way is to have a question or two as compulsory and a marginal choice (5 out of 7 or 4 out of 6) given. Another method tried was to keep certain questions starred and others free. Students may be asked to attempt starred questions for at least 2/3rds maximum marks and the rest only from unstarred. All these 'ad hoc' solutions have a serious limitation. They have all involved traditional type (essay) and a fewer number of questions. A rational and scientific way is to restructure the examination as discussed early in this paper. This alone would bring in improved validity, reliability, relevance and meaning into the process of evaluation of student performance. To implement this restructured pattern, the Chrirman, Boards of Studies in different subjects together with his members must be given the orientation and training to enable them to take decisions on patterns. However, it must be said that within the rigid framework, there is flexibility. Rigidity is to be understood in terms of Part A—objective type, Part B—Short answer type and Part C—Long answer/problem solving being common for all subject areas but flexibility is there for different Boards in the decision of the number of items, duration of parts and marks allotted to parts. A pattern for different subjects at undergraduate and at Postgraduate levels adopted in one university was sent to many universities to suggest modifications and the consensus arrived published in the form of an article.*

In a typical subject the pattern may be:-

Part A: Objective type (Mostly M/C and M/F)
30 items for 30 minutes and 30 marks

Part B: 12 S.A. questions for 90 minutes and
50 marks

Part C: 2 L.A. questions for 60 minutes and
20 marks

In this pattern, the total number of questions to be answered by a student is 44. With 44 questions, the content validity of the paper is very high. There is objectivity in marking Part A and Part B. There is however an element of subjectivity in Part C marking. At the same time, the overall reliability of the whole exam is very high. There is relevance; there is meaningfulness, there is purpose above all better validity and reliability. In addition to all these, such decisions about the pattern by Boards of Studies will have far reaching implications—indeed this decision of pattern will influence the nature and kind of Question Banking, the relative weightages of internal and external and above all science and rationality in our evaluation of student performance. ☐

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*Natarajan V—"A Restructured pattern of exams for Universities", University News, AIU.

Language Convention at Calcutta

(From Our Special Correspondent)

A two-day All-India convention on languages was organised by the National Committee for Linguistic and Communal Harmony. Mr P. Ramachandran, Minister for Energy, inaugurated the convention.

Mr Ramachandran in his opening speech said that there was an 'indisputable case' for a 'national language from the stand-points of 'national esteem' and national unity'. Hindi was spoken by the largest number of people in the country and was 'relatively simple', but evolution of a national language could only be gradual. "Given time, sound dissemination and enlightened self-interest, the national language can come into its own", he said. Simultaneously, conditions must be created, for the flowering of regional languages. The role of English could not be denied and it was indispensible as a 'library language, link language or associate language.' Mr. Ramachandran held that a three-language formula would be in the best interests of the nation, provided it was implemented "in the right spirit specially in the Hindi-speaking areas". However, he regarded 'a process of social education' as the best solution to the problem.

Mr. Sankar Prasad Mitra, Chief Justice of Calcutta High Court suggested that, in the present stage of development, Hindi speaking areas needed urgent promotion of the English language and a road to a 'brighter future' would be blocked if Hindi was immediately made the language of administration and the medium of higher education.

The other speakers were Dr S.K. Mukherjee, Vice-Chancellor of Calcutta University, Mr Ajit Dutta, former Advocate-General of West Bengal. Mr. Samar Guha, M.P. and Mr Ashoke Krishna Dutta, M.P.

The convention arrived at a consensus that :

(a) English should continue to be used for all official purposes till Hindi is accepted voluntarily by the non-Hindi-speaking States.

(b) It affirmed its commitment to the constitutional provision that Hindi remains the official language of the Union and the form of Indian numerals is used for official purposes.

(c) It drew the attention of the Centre and the State governments to the official Languages Act which stated that all communications between Hindi and non-Hindi speaking states should be accompanied by an English translation.

(d) The convention endorsed the view that the mother tongue should be the medium of instruction up to the secondary stage.

(e) Either English should be the medium of the postgraduate level or proficiency in the language should be essential for a postgraduate degree for the maintenance of academic standards.

(f) Regional languages (fifteen in numbers) should be developed with care so that it will be adequate to serve as the language of administration and medium of instruction in all stages.

Addressing the concluding session, Mr. Jyoti Basu, Chief Minister of West Bengal said that imposition of Hindi will only create disunity and contrarily it should be given enough time to evolve into a link language.

The convention noted that some quarters were deviating from the accepted principle of 'three-language formula' and so urged the people and institutions to cultivate a catholicity of approach towards all languages including Hindi, for the sake of linguistic harmony.

The Chief Minister referring to this problem prompted that Education should be given priority and not the language formula. Conventions should be held to examine all aspects of the issue, he concluded.

Problems of desertification

Dr. M.S. Swaminathan, Director-General of the Indian Council of Agricultural Research has emphasised the need to halt desertification. In India 12 per cent of the total land covering parts of Rajasthan, Gujarat, Haryana, Karnataka and Andhra Pradesh were affected by desertification. Dr. Swaminathan defined the desertification as the diminution or destruction of the biological potential of land, which can lead ultimately to desert-like conditions. It would include conditions like salinity and alkalinity and soil erosion arising from indiscriminate felling of trees.

Dr. Swaminathan said that Union Government was also keen on taking up the project to arrest the desertification as the country had the facility and technical knowhow to tackle the problem. He pointed out that in the world countries like the United States, USSR, Israel and China had successfully tackled this problem. The Jordan Valley in Israel and the Imperial Valley in California were developed tremendously in the recent years after being affected by the desertification. He said that on the world, one-third of the total land had been affected by the desertification. Dr. Swaminathan said that the UN Conference on Desertification held at Nairobi recently has finalised the action plan designed to assist in arresting the march of desertification. The action plan was formulated by a committee of the conference for which Dr. Swaminathan was the chairman. He said that the Indian desert was the most densely populated in the world with 61 persons per sq km as against three persons per sq km in most other desert areas. The Government has accorded the highest priority to agriculture and rural development. For achieving the goal, speedy reclamation of areas affected by different processes of desertification was exceedingly important.

College in Sikkim opened

The first degree college with courses in humanities, commerce and sciences was inaugurated at Gangtok by Mr B.B. Lal, Governor of Sikkim. Mr. Lal expressed the hope that students of Sikkim would take full advantage of the facilities provided by the college. The college would soon have the building of its own. The government has already sanctioned a sum of Rs 16 lakhs for this purpose. Dr. A.K. Sinha, Principal of the college felt that a modest beginning had been made with thirtyfour students, but he hoped that the college would serve as a nucleus for the future university of Sikkim.

Nehru science centre

The Council of Scientific and Industrial Research is setting up a science centre in Bombay named after Jawaharlal Nehru. The Council has also taken over the Bio-Chemicals Unit from the Patel Chest Unit of Delhi University. This unit will henceforth function as CSIR centre for Bio-Chemicals.

The Nehru Science Centre will consist of a science exposition unit for children, a museum of science and history, a hall of industry, a science unit for non-formal education and a science information unit for the general public.

The Centre will also establish a unit design for developing new types of exhibits, a production centre, and a research centre for the study of history of science and technology.

Financing of Higher Education in India : J.L. Azad Sterling, 1976, pp. xii 236, Rs. 40.00.

Higher education is facing a serious crisis in all the countries, according to the observers of the educational scene. Pressure of large and growing numbers of students, student unrest, declining standards, inadequacy of finances, imbalances in the supply of and demand for the output of higher educational institutions, etc are the various dimensions of this crisis. Any objective analysis of each of these dimensions is likely to be of great help in suggesting measures for avoiding the further deepening of such a crisis. It is from this point of view that Azad's study of Financing of Higher Education in India is to be welcomed.

Divided into nine chapters the study examines the expenditures and sources of finance for higher education for India, where enrolment in higher education is more than half of the entire population of all the Union Territories in the country. The study gives evidence of painstaking scrutiny of voluminous data about higher educational finances collected from the U.G.C., Central and State Governments, institutions of higher education and from the *ad hoc* sample survey of the viewpoints of vice-chancellors, academicians, and administrators. There is also a brief discussion of procedural and administrative aspects of educational finances.

Examining the financial statistics from 1950 to 1973 (by and large the period chosen for detailed analysis in the study is 1947-48 to 1966-67) the author states that the institutional pattern or, more realistically the 'non pattern' that has emerged in the post-Independence period, is heterogenous and diffused in complexion, size and quality. Similar 'non-pattern' is evident in case of higher educational finances also. Universities receiving relatively rising share in resources than colleges even though the latter carter to increasing number of students, central universities getting larger share in U.G.C. funds than others, central government's share in higher educational finances increasing faster than state sector's share, complexity in implementation of grants in aid policy for higher educational institutions, lopsided development of general and professional education due to grants in aid policy, etc. are some of the aspects of this labyrinth of higher educational finances which have received the attention of the author. The author has brought into focus the complexity of the state and U.G.C. grant-in-aid system, the lack of coordination between the various grant making bodies and their implications for the institution.

However, the suggestion for opening of the state level U.G.C.s one is afraid, may increase the complexity and add to the already existing proliferation of the bureaucratic institutions for disbursement of higher educational finances. About fees, the author is of the opinion that the potentialities of this source have not been fully exploited. He suggests, however, a measure of differential fees, differentiation being based upon the intellectual capacities of students. While the differential fee policy based upon incomes, citizenship, etc. has an operationally meaningful basis, differentiation according to intellectual capacity as suggested by the author might pose several questions of practical significance. Excepting some of these, other suggestions of the author regarding rationalization and widening of the financial base for higher education seem to be feasible.

The book at times gives an impression of being sketchy and incomplete in its coverage. Discussion of the problems of varying elasticity of different items of funds with reference to their sources should have found its place in this study of educational finances. Thus, a question why are endowments declining in importance, may be answered in a better way by a study of the association between endowments and income or other motivating factors. Similarly, others untouched problems are the relationship between tax and non-tax revenues of the government and expenditure on the higher education, the degree of regressivity of the fee rate structure, etc. These aspects have obviously significant implications for policy making in higher educational finances. A useful volume!

Reviewers: P.R. Panchamukhi & G.D. Sharma are on the staff of the University of Bombay. They have specialised in the area of economics of education.

(*Courtesy*: Indian Book Chronicle)

Monograph on Internal Assessment for Universities (AIU), 1977, Pages: 191, Price: Rs. 6.00

It is a systematic, comprehensive, lucid, illustrative, convincing and interesting account of the concept and implementation of continuous internal assessment, a component of examination reforms much talked about but still vaguely understood.

The need for continuous internal assessment is emphasized in order to assess any aspect of a student's performance with reference to the 'total behaviour pattern', i.e. 'the whole person'. It is the teacher alone who is capable of viewing the student as a whole person as well as helping with the assessment of his progress analytically.

It is in the context of 'Objectives' and 'Learning outcomes' that a student's personal characteristics and qualities are to be assessed. The point is elaborated by listing possible outcomes of learning and breaking them down into precise behavioural terms. This is followed by listing the tools of evaluation for measuring these outcomes.

The main purpose of internal assessment is said to be the integration of teaching and evaluation and testing those skills and abilities which cannot be tested through a written examination at the end of a course. These points figure elsewhere also in the literature on internal assessment but the monograph lends precision and practical meaningfulness by proposing how best to go about designing such a scheme.

The crucial factor is the need for securing the involvement of the teachers in the planning and designing of a model of internal assessment for their universities and colleges. A comprehensive analytical questionnaire to solicit the views of the teachers with a view to evolving a model of internal assessment in their disciplines has been included in the monograph. It has been tried at a number of universities and the results have been consolidated and presented in the monograph also. It has been very pertinently pointed out that teachers will take the design created by them out of their own experience more seriously than a design imposed on them.

Moreover, the technique has the potential of doing away with ad hoc decisions on the design. This kind of design is marked by 'both rigidity and flexibility—rigidity is to be understood in terms of the six major components as common for all subjects, flexibility is there in that different groups of different subject teachers will come with different weightages for these components, thus truly reflecting the nature, character and objectives of their subjects in the process of teaching/learning'. (p 71). It has also been suggested that this kind of exercise should be undertaken every year to generate better and improved results.

However, with all the academic interest that the "illuminative" character of the approach generates, the idea of every teacher being competent to make a meaningful response to some of the significant questions raised seems to be of dubious validity. A certain technique to select 'a reasonable number of teachers, having sufficient teaching experience' (p 82) and fully equipped to fill in the questionnaire may have to be evolved. Teachers imbued with a sense of indifference to matters academic (their number is not small) or incapable of coming to grips with academics (no reflection this! but they do exist), some of them occupying positions of authority, are a potential ancillary variable. It is no use pretending that major reforms, national and scientific, can be ushered in despite their presence on campuses. 'The success of a system of internal assessment will largely depend on the teachers; their understanding, training, potential, honesty, unbiased attitude and above all the "Professionalism" they bring to their work of teaching-learning testing' (p 140). It is true and therein lies the snag.

The monograph rightly points out that 'if internal assessment is done sincerely and honestly by every teacher in the way demonstrated, there will not be any necessity to have an end university examination (p 109). However, since the present position accepts the coexistence of internal assessment and external examinations, the monograph presents certain scientific techniques of apportioning weightages. Pointing out the inadequacy of treating internal assessment as a form of mini examinations, conducted periodically, it emphasizes the need for testing certain other important abilities. In such a situation the internal and external assessment marks are not to be combined 'for the simple reason that they are assessing different kinds of abilities and skills' (p. 114). Suggesting the ratio of 50:50 for external marking and internal assessment, the monograph presents the techniques of 'relative ranking', proposed by Amrik Singh, Edwin Harper Jr. and Natarajan elsewhere as well. Whether the method proposed can 'be handled by clerks (with a minimum of training and supervision and without any machines at all) (p. 125), is an open question. In the case of a large number of examinees 'scaling based on mean and standard deviation can be adopted' (p. 128). The monograph recommends that even here 'after scaling the marks may be indicated separately'.

A good case, however, has been made out for adopting 'direct grading' in place of awarding marks to meet some of the crucial problems.

The monograph also considers some general problems, in internal assessment (p. 122), particularly in the context of affiliating universities and makes certain suggestions towards solution. In the case of an intentional distortion on the part of a teacher, no fear of 'the principal' or 'the entire academic community' (p. 125) is likely to yield useful results.

In any case, those who are generally interested in the problems of examinations and education and ushering in reforms will find the monograph a very interesting study. It carries a comprehensive bibliography and useful information in the Appendix on 'Internal Assessment in Indian Universities'

Satya Pal Julka
Zakir Husain College,
Delhi.

THESES OF THE MONTH

A list of Doctoral Theses Accepted by Indian Universities

PHYSICAL SCIENCES

Mathematics

1. **Agrawal, Sita Ram Devi Narain.** On the convergence and summability of fourier bessel series. M.S. University of Baroda.

2. **Kalele, Arvind Chintaman.** A study in convergence and summability of ultraspherical and Jacobi series. Vikram University.

3. **Nagamuni Reddy, L.** Studies in some plane geometric configurations and their equivalent algebraic structures. Sri Venkateswara University.

4. **Nagarajan, Kasturi.** Multipliers on segal algebras. University of Madras.

5. **Shrivastava, Namita.** Absolute norlund summability of fourier series. University of Jabalpur.

6. **Viswanathan, K.** Some contributions to numerical solution of boundary value and initial value problems. University of Madras.

Physics

1. Rajan, S.S. Studies in structural crystallography. University of Madras.

2. Satyan, V. Measures for Hartree Fock states and hamiltionian operators and a new variational method in the study of nuclei. Gujarat University.

3. Sen, Suchitra. Studies on vacuum evaporated thin films by X-ray diffraction. University of Calcutta.

4. Sharma, Prabhakar K. Investigations on the equatorial ionospheric phenomena. Gujarat University.

5. Srivastava, Bipin Kumar. Study of external and internal modes of water in hydrates. Kanpur University.

Chemistry

1. Balasubrahmanyan, R. Studies in the chemistry of homocyclic compounds. University of Madras.

2. Bandyopadhyay, Gautam. Some studies on spalling of magnesite refraction. University of Calcutta.

3. Bohate, Abilish Kumar. Kinetic study of hydrolysis of compounds containing carbon, nitrogen and phosphorus (C-N-P) linkages. Jiwaji University.

4. Damle, Madhav Hari. Organic chemistry of nitrogen and sulphur: Synthesis of certain γ-rayl trithioaliophanic acids and their derivatives. Nagpur University.

5. Debnath, Narayan Bikas. Studies on some medicinal plants of India. University of Burdwan.

6. D'Souza, T.J. Physiochemical and physiological studies on gamma emitting fission product radionuclides and neutron activated nuclides in typical Indian soils and soil plant system. Gujarat University.

7. Gaekwad, Yeshwant Ganpatrao. Studies in xanthones. M.S. University of Baroda.

8. Gain, Niranchandra. Studies in the coordination complexes of substituted pyrazoles. University of Calcutta.

9. Ghoshal, Prabirkumar. Synthetic studies related to diterpenoids and related products. University of Calcutta.

10. Gopalakrishnan, Ganesa. Kinetic studies in oxidation reactions. University of Madras.

11. Gupta, Raghunath Prasad. Studies in kinetics and mechanism of oxidation of aliphatic carcoxylic acids—such as iso and normal, butyric and valeric acids by potassium permanganate. Vikram University.

12. Jain, Anil Kumar. Chemical investigation of amino acids and proteins of some Indian seeds. Vikram University.

13. Kayal, Pankajbhushan. Reaction of alkali metal nitrates (Rb NO$_3$) with silica and alumino silicates. University of Calcutta.

14. Kostova, Ivanka Nicholova. Studies in the chemistry of some Indian plants and studies in the reactivity of B-naphthol. University of Delhi.

15. Mittal, J.P. Industrial utilisation of pith from some agricultural residues. Kanpur University.

16. Mohanty, Nirod Kumar. Reactions of coordinated ligands. Utkal University.

17. Parmar, Virinder Singh. New polyphenolics from some Himalayan plants and their synthesis. University of Delhi.

18. Pratihari, Hemanta Kumar. Kinetics of metal ion oxidation of organic compounds in solution. Utkal University.

19. Rajeswari, S. Inorganic polymer. University of Madras.

20. Sen, Parimalchandra. Studies on fish lipids. University of Calcutta.

21. Sridharan. R. Transesterification studies. University of Madras.

22. Ved Parkash. Synthetic studies in oxygen heterocycles (isocoumarins) and studies in thermal behaviour of poly (Schiff Bases). Sardar Patel University.

23. Venkatachalam, T.K. Effect of addition agents in electro deposition. University of Madras.

Earth Sciences

1. Gopikishan. Petrology and geochemistry of the granites of Moula Ali Bolarum and Yousufguda areas, Hyderabad, Distt. A.P., Osmania University.

2. Mukhopadhyay, Mrinalkanti. Structural characteristics of rocks around Kalimpong, West Bengal. University of Calcutta.

3. Nijagunappa, R. The study of the ultrabasic rocks of Nuggihalli Schist Belt, Hassan District and the area around Kadakola, Mysore District with special reference to ore mineralisation associated with them. Bangalore University.

Engineering & Technology

1. Aravindan, P. Investigation into the improvement of cutting ability of spur gear generating shaper cutters. University of Madras.

2. Biswas, Sanat Kumar. Optimization of steam cycles for gas coiled nuclear power plant. University of Calcutta.

3. Kane, A.S. Study on mechanical engineering problems involved in reverse osmosis desalination technique. Saurashtra University.

4. Srivatsavan, R. A new hypothesis on fatigue damage in multilevel stressing. University of Madras.

BIOLOGICAL SCIENCES

Biochemistry

1. Ray, Pranab. Studies on Eukary-otic R.N.A. synthesis in relation to plant hormone receptor proteins. University of Calcutta.

2. Tamam, Abdulrahim. Studies on algal-bacterial symbosis in high rate oxidation ponds using scenedesmus obliqus. M.S. University of Baroda.

Botany

1. Alexander, K.C. Limnological studies on upper and lower lakes of Bhopal. Vikram University.

2. Arora, Asha. Studies on the role of copper in growth and development of fresh water algae. Kanpur University.

3. Buch, B.H. Study of plant chemistry and its medicinal applications. Saurashtra University.

4. Chowdhry, Prakash Narain. Studies on some aquatic fungi with reference to ecology and taxonomy. University of Jabalpur.

5. Hakim, K.L. Genome differentiation in genus oryza. Utkal University.

6. Jani, D.J. Effect of pre-treatment of seed with growth regulators on growth, development, metabolism and yield of some crop plants. Gujarat University.

7. Krishnamurthi, M.S. Physiology of host parasite relationship with reference to respiratory changes in bacterial blight of cotton. Madurai University.

8. Malathi, V.G. Studies on fusarium wilt of cotton. University of Madras.

9. Misra, Aruna Kumari. The effect of obligate parasites on host physiology. Utkal University.

10. Pai, K.U. Effect of hearty water (D_2°) on physiological processes in higher plants. Gujarat University.

11. Pandey, Har Narayan. Taxonomical morphological and ecological studies on some grasses. University of Saugar.

12. Ray, Sumit Kumar. Bacteriological and immunological studies on choleragemic vibrios. University of Calcutta.

13. Saxena, Rajendra Kumar. Studies on the control of reproductive differentiation in aspergillus nidulans under submerged conditions. University of Delhi.

Zoology

1. Ambikamma, B. Studies on the spermatogenesis in dysdercus cingulatus fabr (Insecta: Heteroptera: Pyrrhocoridae) University of Kerala.

2. Annamalai, P.M. Studies in reptilian endocrinology. University of Madras.

3. Aruldas, Hannah. Studies on jumping spiders, Salticidae: Araneida. University of Madras.

4. Cherian, C.J. Studies on some boring and fouling crustaceans. University of Cochin.

5. Divakaran, O. Studies on the biology of parhyale hawaiensis dana. University of Kerala.

6. Khot, ajini Prabhakarro. Studies on some physiological aspects and control of the snail, melanoides tuberculatus. Marathwada University.

7. Misra, Bivekananda. Studies on the skin of the garden lizard, calotes versicolor. Berhampur University.

8. Padmini, K. Soil and water pollution by tannery effluents: A microbiological study. University of Madras.

9. Salih, M. Studies on the clam, meritrix casta (Chemitz) off Cochin Barmouth. University of Cochin.

10. Seethalakshmi, L. Reproductive physiology of some rodents and invertebrates. Gujarat University.

11. Sheth, K.M. Studies on the mammalian reproductive tract with special reference to accessory glands under normal and altered physiological conditions. Gujarat University.

Medical Sciences

1. Basu, Chhaya. Studies on certain aspects of uterine function. University of Calcutta.

2. Ghoshal, Ranjitkumar, Comparative haematological studies of enzymes. University of Calcutta.

3. Kamalam, A. A study of mycoses in a tropical skin clinic with special observations on Tinea capitis. University of Madras.

4. Menon, Venugopal Padmanabhan. Effect of proteins and carbohydrates on the metabolism of glycosamino-glycans in relation to atherosclerosis. University of Kerala.

5. Mukhopadhyay, Saroj Kumar. Some of the metabolic circulatory changes in the hearts of rats exposed to high environmental temperature. University of Calcutta.

6. Najma Begum. Studies on the changes in tissue composition in diabetes mellitus. University of Madras.

7. Nambisan, Bala. Role of ascorbic acid in the metabolism of glycosaminoglycants in relation to atherosclerosis. University of Kerala.

8. Sasi, P.K. Biochemical investigations on human ascaris lumbricoides. University of Kerala.

9. Sudhakaran, P.R. Role of vitamin A in the metabolism of glycosaminoglycans in relation to atherosclerosis. University of Kerala.

Agriculture

1. Arumugam, R. Studies on resistance to yellow vein mosaic disease of bhendi, abelmoschus escidentus (L) moench. Tamil Nadu Agricultural University.

2. Bansal, Rameshwar Dass. Studies on the interaction between tobacco mosaic virus and colletotrichum capsici (Syd.) butter and bisby in chilli. Punjab Agricultural University.

3. Bishnoi, Krishan Chandra. Growth, yield and quality parameters of three raya (bassica juncea (L) czern and coss) varieties and their moisture and nutrient use pattern in relation to sowing time and nitrogen levels. Haryana Agricultural University.

4. Chattopadhyay, Biplab Kumar. Studies on propagation of jackfruit. University of Calcutta.

5. Dwivedi, Ram Saran. Metabolic studies on buffalo bull semen. Kanpur University.

6. Jha, Bhairab Kant. Studies on better utilisation on non-edible oilseed cakes. Bihar University.

7. Khan, Mohammad Ishtiaque. Effect of simulated drought on physiology and metabolism of maize, zea mays L and sunflower, helianthus annuus L crops. Haryana Agricultural University.

8. Krishnaswami, S. Studies on induced mutations in green gram, vigna radiata (L) wilczek. Tamil Nadu Agricultural University.

9. Marappan, P.V. Studies in interspecific hybridisation and experimental introgression within cultivated tetraploid species of gossypium Linn. Tamil Nadu Agricultural University.

10. Milakh Raj. Salt distribution and water transmission characteristics of soils as influenced by composition and concentration of electrolytes. Haryana Agricultural University.

11. Ramaswamy, V. Nutritional requirements of active lactic starter cultures. Tamil Nadu Agricultural University.

12. Vas Dev. Nutro-physiological studies in triticale crop. Kanpur University.

Veterinary Science

1. Dixit, Nandan Lal. Pathology of pneumonia in sheep and goats caused by chlamydia and myeoplasma organisms. Haryana Agricultural University.

2. Jagjit Singh. Experimental studies on pathology and pathogenesis of marek's disease in chicks. Haryana Agricultural University.

3. Paikane, Dattatrya Laxmanrao. Studies on the pathology and pathogenesis of ovine brucellosis. Haryana Agricultural University.

4. Pandurang, Deshmukh Appasaheb. Effect of feeding different calf starters on the growth of buffalo calves.

5. Trivikrama Rao. Pathology of experimental marek's disease with particular reference to immunotherapy and immunoglobulin studies. Haryana Agricultural University.

CLASSIFIED ADVERTISEMENTS

UNIVERSITY OF DELHI

Advt. No. Estab. IV/45/77

Applications on the prescribed form are invited for the following posts:

S. No.	Department	Designation
1.	Chemistry	Three Professors
2.	Psychology	One Professor
3.	English	One Professor
4.	Economics	(i) One Professer (ii) Two Readers (One temp. upto 25.7.1978) (iii) Research Associate (CAS)
5.	Chinese & Japanese Studies	(i) One Professor of Chinese Language and Literature (ii) Two Readers (One in Sino-Korean Studies and other in Chinese Studies) (iii) Research Associates in Chinese Studies
6.	History	(i) Two Professors (ii) Two Readers
7.	Philosophy	One Reader with specialization in Philosophy of Science, Philosophical Methodology & Techniques.
8.	Physics & Astrophysics	One Reader
9.	Faculty of Management Studies	Eight Readers (One temp. but likely to continue)
10.	Commerce	One Lecturer (Temp. upto 31.7.1978)
11.	Anthropology	Two Lecturers
12.	Faculty of Law: Evening Law Centre I	One Lecturer (Temp. upto 14.10.1979)
13.	Modern Indian Languages	One Lecturer in Punjabi (Temp. for one year)
14	Sanskrit	One Lecturer (Temp. upto 5.10.1979)
15.	University Garden	One Garden Overseer
16.	Computer Centre	(i) One Junior Programmer (ii) One Console Operator
17.	Central Office	One Stenographer (Hindi)

The Scales of Pay of the posts are:

1. Professor : Rs. 1500-60-1800-100-2000-125/2-2500.
2. Reader : Rs. 1200-50-1300-60-1900.
3. Lecturer:Rs. 700-40-1100 50-1600.
4. Research Associate/Junior Programmer : Rs. 700-40-900-EB-40-1100-50-1300.
5. Console Operator: Rs. 550-25-750-EB-30-900.
6. Garden Overseer / Stenographer (Hindi) : Rs 425-15-500-EB-15-560-20-700.

All posts carry D.A, C.C.A. and H.R.A. as admissible under the rules in force in the University from time to time.

I. Essential Qualifications for:

1. Professorships

A Scholar of eminence.

Independent published work of high standard and experience of teaching Post-graduate classes and guiding research for a considerable period desirable.

2. Readerships

Good academic record with first or high second class Master's Degree in the subject concerned with a Doctor's Degree or equivalent published work.

Independent published work (in addition to the published work mentioned above) with atleast 5 years' teaching experience in Honours/Post-graduate classes essential.

3. Lectureships: (other than Law)

Good academic record with a first or high second class Master's Degree or an equivalent degree of a foreign University in the subject concerned. (Note: Second class would mean at least 50% marks in the subject or equivalent grade).

Desirable

(i) A Doctor's Degree or Evidence of Research work of equivalent standard in the subject concerned. (ii) Teaching experience of Degree/Post-graduate classes.

Provided if a teacher is not a Ph.D./M.Phil./M. Litt. at the time of his/her appointment and does not qualify himself/herself for the award of Ph.D./M.Phil./M.Litt. Degree from a recognised University in a subject which is being taught by him/her within a period of five years from the date of his/her appointment or does not give evidence of research work within that period in the subject concerned, he/she shall not be entitled to any future increments after the expirty of he said period of five years till such time he/she fulfils the above mentioned requirements.

Essential Qualifications for:

4. Lectureship in Law

Consistently good academic record with a first or high second class (B+) Master's degree in the Law OR an equivalent Degree of a foreign University in the subject concerned.

Explanation

Consistently good academic record would mean overall record of all assessments throughout the academic career leading to the Master's Degree, which should be at least be B+ or high second class.

5. Research Associateships

Good academic record with first or high second class (B+) Master's Degree or an equivalent degree of a foreign University in the subject concerned.

Note: Initial appointment will be for a tenure period of three years extendable by another two years only. **In no case the tenure will extend beyond 5 years in all.**

6. Junior Programmer

(a) Atleast a Second Class (Not less than 50% marks in the aggregate) Master's Degree in Mathematics, Statistics, Econometrics, Operations Research or Physics;

OR

At least a Second Class (Not less than 50% marks in the aggregate) Bachelor's Degree in Engineering from a recognised institution; and

(b) (i) At least two years' experience in Computer Programming at a recognised institution;

(ii) Knowledge of one of the high level languages like Fortran, Cobol, Algol, PL/1.

7. Console Operator

(a) Atleast a Second Class (Not less than 50% marks in the aggregate) Master's Degree in Mathematics, Statistics, Econometrics, Operations Research or Physics;

OR

Atleast a Second Class (not less than 50% marks in the aggregate) Bachelor's Degree in Engineering from a recognised Institution; and

(b) Familiarity with Console Operation.

8. Garden Overseer

B. Sc. Agriculture/Horticulture.

9. Stenographer (Hindi)

Atleast Matriculation but Graduates with previous experience of drafting and noting will be preferred. Minimum speed 100 W.P.M. in Shorthand and 30 W.P.M. in Hindi typewriting.

Note: Candidates will be required to appear and qualify in the tests in General Hindi, Shorthand and Typewriting, to be held by the University.

II. Special/Desirable Qualifications for:

1. Professorship in Economics

Preference will be given to a scholar who has specialisation in Economic Theory, International Economics or Monetary Economics.

2. Professorship in Chinese Language & Literature

High proficiency in reading modern and classical Chinese. Published work in Chinese.

3. Readership in Sino-Korean Studies

Proficiency in both Chinese and Korean Languages.

4. Readership in Chinese Studies

Proficiency in Chinese language. Specialization in Comparative studies of India and China. Research papers on Chinese society based on primary source materials.

5. Research Associateships in Chinese Studies

Proficiency in Chinese language, Experience in research.

6. Professorships in History

(i) Specialization in medieval Indian History.

(ii) Specialization in historiography/ancient India.

7. Readerships in History

(i) Specialisation in British/European History. The candidate should produce evidence of research in any field of British/European History and should possess proficiency in an European language other than English.

(ii) South Indian History and Culture. The candidate should have knowledge of early history of Peninsular India and should possess proficiency in one of the South Indian languages.

8. Readership in Physics & Astrophysics

Specialisation in any branch of Theoretical or Experimental Physics will be preferred.

9. Readerships in the Faculty of Management Studies

Candidates with Master's Degree in Business Management, Engineering, Technology, Mathematics or other field of Social Sciences such as Economics, Commerce, Psychology, Sociology, etc. with specialisation in one or more of the following areas:

Business Policy, Management Concepts, Management Information System, Materials Management, Marketing Management/Financial Management/Management Accounting, Economic environment of Business, Personnel Management and organisational Behaviour,

and with consultancy/practical executive experience in a business or an industrial organisation will be given preference. Familiarity with case methods of instruction, advanced training in modern methods of teaching in management are desirable.

Following are the specific requirements for the posts of Readers in the varions subject areas:

(a) Business Policy/Management Concepts: Experience of teaching Business Policy Course through case methods and/or practical experience in the area of corporate planning.

(b) Management Information System: Teaching experience in the subject area in addition to practical/consulting experience in the application of MIS in different functional areas of Management.

(c) Materials Management: Specialisation in the subject area and/or consulting experience in the application of quantitative materials management.

(d) Marketing Management: Research and/or practical experience in Marketing Research/Advertising Management/Application of Quantitative Methods in Marketing Management.

(e) Financial Management/Management Accounting:

Teaching Experience in the subject area and advanced research in Public Utility/Hospital Accounting will be preferred. Candidates with Chartered Accountancy/Cost Accountancy qualifications may also apply.

(f) Economic Environment of Business:

Teaching experience at the Postgraduate level in the subject area and advanced research in Applied Macro-Economics. Knowledge of Econometrics and Public Enterprises Management will be additional quulifications.

(g) Personnel Management/Organisational Behaviour:

Experience of conducting executive development programmes, practical/consulting experience in selection techniques and manpower planning and/or advanced research and training in Applied Behavioural Science.

10. Lectureship (Temp.) in Commerce

Postgraduate teaching experience of Management Accounting or Marketing or Business Statistics for 3 to 4 years.

11. Lectureships in Anthropology

For First Post: Specialization in any of the following: (i) Human Genetics, (ii) Human Cytogenetics, (iii) Physiological Anthropology. Field work and Research experience in allied fields.

For Lectureship in Forensic Science (i) Specialization in Physical Anthropology, (ii) Knowledge of different fields of Forensic Science including finger prints, Serology, Anthropometry, etc. (iii) Two years teaching or research experience, (iv) Doctor's Degree in Physical Anthropology/Forensic Science or evidence of research work of equivalent standard.

12. Lectureship in Punjabi (Temp.)

A sound knowledge of Western theories of Literature.

13. Lectureship in Sanskrit (Temp.)

Specialization in Vyakarana/Sahitaya/Darsana and Epigraphy.

14. Junior Programmer

(a) Experience of participation in training programmes in Computer-related disciplines, and (b) Knowledge of an assembly language.

15. Console Operator

Knowledge of the elements of Computer Programming.

16. Garden Overseer

Experience of supervisory work in an organised garden.

The prescribed application form can be had from the **Information Office** of the University either personally or by sending a self-addressed envelope (size 5" × 11") with postage stamps worth **Rs. 2.55**.

Selected candidates will have to produce the original documents relating to their age, qualifications, experience, etc. at the time of interview.

Applications (separate for each post) accompanied by attested copies of Degrees, other certificates, mark-sheets, published research articles, etc. should reach the undersigned not later than **12th November, 1977.**

Note

1. It will be open to the University to consider the names of suitable candidates who may not have applied. Relaxation of any of the qualifications may be made in exceptional cases, in respect of all teaching posts on the recommendations of the Selection Committee.
2. Canvassing in any form by or on behalf of the candidates will disqualify.
3. Candidates from outside Delhi for teaching posts, called for interview will be paid contribution towards travel expenses equivalent to 1½ single Second Class Rail fare.
4. Those who had applied in response to the earlier advertisement for Professorships of English, Chemistry, Chinese Language and Literature; Readerships in Economics (Temp.), Sino-Korean Studies, Chinese Studies, Management Studies and Research Associateships in Chinese Studies, **need not apply again** but in case they have any additional information to supply, they may do so.

11th October, 1977. **REGISTRAR**

* * *

UNIVERSITY OF SAUGAR

Advertisement No. R. 2/77

Applications on a prescribed form obtainable from the office of the Registrar on requisition accompanied by a self-addressed stamped envelope and a Postal Order of Rs 5/- as application fee, are invited for the following permanet (except where specified otherwise) teaching posts so as to reach the Registrar, University of Saugar on or before **14 November, 1977.**

2. Candidates already in service should send their applications through

the proper channel. An advanced copy, however, may be sent direct.

3. Candidates selected for an interview will have to come to Saugar at their own expense and bring with them their original research papers, degrees and certificates etc.

4. The period of probation shall be two years from the date of appointment. This period of probation may, however, be extended by such further period as the Executive Council may deem fit, but the total period of probation shall in no case exceed three years. Service during the temporary appointment, including the probationary period, may be terminated as per University rules.

5. The age of retirement is sixty years.

6. The University reserves the right to negotiate with suitable person or persons, if necessary, who may not have applied.

7. Preference will be given to Scheduled caste and Scheduled tribe candidates if found suitable.

8. The University reserves the right to fill up or not to fill up the posts and/or to call only selected candidates for interview. The number of posts likely to be filled may vary.

9. The candidates must mention in each case the branch of their specialisation and must show their qualifications from matriculation upwards indicating in each case the marks/percentage of marks/division/grade and the subjects taken.

10. **Scales of Pay**

Professors: Rs. 1100-50-1300-60-1600
Reader : Rs. 700-50-1250
Assistant: Rs. 400-40-800-50-950
Professors

With D.A. & P.F. benefits according to University rules.

These scales of pay are likely to be revised, in which case the qualifications and conditions as prescribed for revised scales will be applicable.

11. **Qualifications**

I. Professor: (a) A first or second class Master's degree of an Indian University or an equivalent qualification of a foreign University in the subject concerned.

(b) Either a degree of the Doctorate standard or published work of high standard.

(c) Specialisation in the relevant branch of the subject concerned, where specialisation is necessary.

(d) Not less than 10 years experience of post-graduate teaching, and

(i) Experience of successfully guiding research.

(ii) In case of Pharmaceutical Science and Applied Geology, experience of successfully guiding research or industrial or field experience.

Provided that in the case of a candidate of exceptional merit the Executive Council may, on the recommendation of the Selection Committee and with the prior approval of the Kuladhipati relax any of the qualifications mentioned in (a) to (d) above.

II. Reader: (a), (b) and (c) Same as for Professor with post-graduate teaching experience of five years and three years experience of guiding research. Working knowledge of Hindi shall be a desirable qualification

III. Assistant Professor: (a) First or second class Master's degree of an Indian University or equivalent qualification of a foreign University in the subject concerned.

(b) A research degree in the subject or experience of teaching degree and/or postgraduate classes will be a desirable qualification.

(c) Knowledge of Hindi will be desirable.

University College of Education

1. One post of College Professor (permanent).

Scale of pay: Rs. 680-40-800-50-1000-EB-50-1150 (P.S.) with D.A. & P.F. according to University rules.

Qualifications: At least a Second Class Master's Degree in Education with at least six years experience of teaching M.Ed. classes or ten years experience of teaching B.Ed. classes.

Desirable: Knowledge of Hindi.

2. Four posts of Lecturers (permanent).

Scale of pay: Rs. 400-25-500-30-680-EB-40-800 (PS) with D.A. & P.F. according to University rules.

Number of Posts in each subject

Subject	Professors	Readers	Asstt. Profs.	Specialisation
1. Physics	1	—	—	—
2. Chemistry	—	1+1	4+1	One permanent Reader in Organic Chemistry. The other post of Reader and one Asstt. Prof. are temporary under U.L.P. Programme.
3. Botany	1	1+1*	1	One Reader in Cytogenetics/Organism Physiology/Cell Molecular Biology.
4. Zoology	—	1*	—	—
5. Mathematics	1*	—	—	—
6. Criminology & Forensic Sc.	—	1	—	—
7. Geography	—	1*	—	—
8. App. Geology	1*	—	—	—
9. Pharmacy	—	3+1*	1*	Readers: Pharmaceutics/Pharmacology/Pharmacognosy/Pharmaceutical Chemistry. Asstt. Prof.: Pharmacology/Pharmaceutical Chemistry
10. History	1	1	—	
11. Political Sc.	1	—	—	
12. Philosophy	1	1	1	Professor: Indian Philosophy. Reader: (post temporary for five years in the first instance)—Buddhist Studies.
13. Hindi	2	1*	—	
14. Ancient Indian History Culture & Archaeology	1	—	—	
15. Economics	—	1	2	
16. Psychology	—	—	2	
17. Sanskrit	—	1	1	
18. English	—	—	2	
19. Linguistics	1	1	—	
20. Urdu/Persian	—	1	—	Ability to translate manuscripts from Persian to Hindi/English.
21. Marathi	—	—	1	
22. Music	—	—	1	
23. Law	—	—	1	

* Appointments temporary against lien/leave vacancies only. On termination of the lien the appointees will be entitled for permanent appointment according to rules.

Note: (i) Out of the two posts of Professors in Hindi one is named as 'Makhan Lal Chaturvedi Chair',

(ii) The Professorship in Ancient Indian History, Culture & Archaeology is named as 'Tagore Chair'.

Qualifications: At least second class Master's degree in Education,

Desirable: Knowledge of Hindi.

Central Instrumentation Lab. & Workshop

1. Engineer

Scale of Pay: Rs. 1100-50-1600 with the usual benefits of D.A. & P.F. etc. as applicable to the posts and scales of pay came into existence afrer 4.5.74.

2. Technicians (T'C)

Scale of pay: Rs. 380-12-500-EB-15-560 with usual benefits of D.A. etc. as in the case of Engineer.

Qualifications

Engineer: Essential:

At least second class post-graduate degree in Engineering or Science with five years experience in R & D of instruments or in operation, repair & maintenance of modern instruments.

Technician: Mechanical Workshop Essential:

Certificate course from I.T.I. with seven years experience.

Technician: (Electronomics)

Certificate course from I.T.I. in Electronomics/Electrical Engineering with five years experience.

Note: All the candidates who have applied in response to Advertisements No. R.1/76 dated 20.2.1976, No. R. 2/76 dated 12.7.1976 and No. R.3/76 dated 9.12.76 need not apply again.

B.B. Khare
REGISTRAR

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ALIGARH MUSLIM UNIVERSITY
Advertisement No. 23/77-78

Applications, on the prescribed form, are invited for the following posts:

Lecturers in Commerce (Six Temporary posts)
Scale of Pay: Rs. 700-40-1100-50-1600 plus allowances.

Qualifications

(a) A Doctor's degree or research work of an equally high standard; and

(b) consistently good academic record with 1st or high 2nd class (B in the seven point scale) Master's degree in a relevant subject or an equivalent degree of a foreign university.

Having regard to the need for developing interdisciplinary programmes, the degrees in (a) and (b) above may be in relevant subjects.

Desirable

Specialisation in any of the subject.

(i) Accounts.
(ii) Managerial Economics.
(iii) Monetary Theory & Banking
(iv) Cooperation & Industries.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of the qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable, a person possessing a consistently good academic record (weightage being given to M.Phil. or equivalent degree or research work of quality) may be appointed **provided he has done research work for at least two years or has practical experience in a research laboratory/organisation** on the condition that he will have to obtain a Doctor's degree or give evidence of research work of equivalent high standard within five years of his appointment, failing which he will not be able to earn future increments until he fulfils these requirements.

Prescribed application forms and instructions may be had from the Deputy Registrar (Executive) either personally or by sending a self-addressed envelope of 23 x 10 cm. Last date for receipt of applications is **11th November, 1977**. Incomplete applications and those received late may not be considered.

Higher initial start may be given to candidates possessing exceptional qualifications and experience. Candidates interviewed may be paid contribution towards their T.A. equal to one single Second Class railway fare only.

Jamalur Rahman
REGISTRAR

PERSONAL

1. Dr. P.S. Lamba has taken over as Vice-Chancellor, of Haryana Agricultural University, Hissar with effect from October 1, 1977.
2. Dr. Lakshman Jha has taken over as Vice-Chancellor of Mithila University with effect from October 3, 1977.
3. Dr. L.S. Negi has taken over as Vice-Chancellor of Himachal Pradesh University with effect from October/3, 1977.
4. Dr. Attar Singh Yadav, Head of the Dept. of Chemistry, Magadh University (Bihar) has been appointed Vice-Chancellor of Acharya Narendra Dev Agricultural University, Faizabad.
5. Dr. Dharam Pal Singh, Pro-Vice-Chancellor of Haryana Agricultural University, Hissar has been appointed Vice-Chancellor of G.B. Pant University of Agriculture and Technology, Pantnagar.

LIBRARY

Teaching of Field Crop Agronomy

UNESCO in association with Tamil Nadu Agricultural University and the Indian Council of Agricultural Research will hold a Postgraduate course for University Lecturer and postgraduate students intending to pursue an academic career on "The Teaching of Field Crop Agronomy" at the Tamil Nadu Agricultural University, Coimbatore from January 10-28, 1978. This postgraduate course is one of the series of international courses for academic staff and postgraduate students which UNESCO is organising in accordance with the recommendations of the World Conference on Agricultural Education and Training held in Copenhagen in 1970. Its objectives are:

(a) to discuss recent advances and research findings in Field Crop Agronomy;

(b) to discuss the place of Field Crop Agronomy within the undergraduate curriculum in agriculture and its relation to other subjects such as the applied science, animal production, economics and management;

(c) to discuss the Field Crop Agronomy curriculum for undergraduate training and the relative weightage of professional courses, engineering science, biological courses, physical sciences, humanities, etc.

(d) to discuss methods for improving the quality of teaching of Field Crop Agronomy subjects at various levels under different programmes;

(e) to discuss postgraduate training and research programmes in Field Crop Agronomy.

BANARAS HINDU UNIVERSITY

Advertisement No. 11/1977-78

Applications are invited for the undermentioned posts. The benefit of Provident Fund/Pension, Dearness Allowance, House Rent Allowance and City Compensatory Allowance are admissible according to University Rules. The retirement age of University employees is 60 years. The appointment will be made on the two years probation on all permanent posts. Higher starting salary within the grade is admissible to specially qualified and experienced candidates.

Applications will be entertained on the prescribed form duly supported with a Bank Draft or Crossed Indian Postal Orders for Rs. 7.50 in favour of the Registrar, Banaras Hindu University towards the application fee. Application forms alongwith the leaflet of information will be supplied free of cost by the Registrar (Selection Committee Section), Banaras Hindu University, Varanasi-221005 on receipt of Re. 0.40 paise stamped self-addressed envelope of 23 cm × 10 cm size. Candidates called for interview for these posts will be paid actual Railway fare by the Second class plus reservation charges for sleeper, if paid, and or actual Bus fare from the present residence both-ways by the shortest route as per University Rules. No other expenses will be paid.

Applications for each post be sent separately alongwith attested copies of certificates in support of the qualifications and experience mentioned in the application and be addressed to the Registrar (Selection Committee Section), Banaras Hindu University, Varanasi-221005.

Incomplete application in any respect will not be entertained for consideration.

Those who are in service should apply through proper channel. M.O. or Cheque will not be accepted towards the application fee.

Last date for receipt of application is **November 14, 1977**.

1. Professor of Surgery: (temporary likely to be made permanent) (one).

Grade: Rs. 1500-60-1800-100-2000-125/2-2500 + N.P.A. admissible as per rules.

Qualifications Essential: (1) M.B.B.S. or equivalent qualification recongnised by the Medical Council of India. (2) M.S. (Surgery)/ M.S. (General Surgery), F.R.C.S. Speciality Board of Surgery, U.S.A. (3) Teaching experience as Associate Professor Reader in General Surgery for five years in a Medical College. Desirable: (1) Research experience and publications in the field of General Surgery in standard journals.

Note: Those who have already applied in response to Adv. No. 3/76-77 need not apply again.

2. Professor of Biophysics: (One).

Grade: Rs. 1500-60-1800-100-2000-125/2-2500 + N.P.A. admissible to Medical Graduates only

Qualifications Essential: (1) M.D. (Biophysics), Ph.D. (Biophysics) M.D. (Physiology) or M.D. (Biochemistry) with one year training in Biophysics. (2) About five years experience of teaching and research in a Medical College or other research Institute in the capacity of a Reader or equivalent post after requisite Post-Graduate qualification. (3) Experience of guiding research. **Desirable**: (1) Original contribution and research publications in the subject. (2) Membership of Professional Bodies/ Learned Societies.

Note: Those who have already applied in response to our earlier Advt. No. 8/1974-75 need not apply again.

3. Reader in Surgery: (Neurosurgery, (One).

Grade: Rs. 1200-50-1300-60-1900 + N.P.A. admissible as per rules.

Qualifications Essential: (1) M.B.B.S. or equivalent qualification recognised by the Medical Council of India. (2) M.S./F.R.C.S. in Surgery with two years special training in Neuro-Surgery/ M. Ch. in Neuro-Surgery, Speciality Board of Neurological Surgery, U.S.A. (3) Three years teaching experience as Lecturer or equivalent in Neurosurgery. **Desirable**: (1) Research experience and publication in the subject.

4. Reader in Dravyaguna: (One).

Grade: Rs. 1200-50-1300-60-1900 + N.P.A. admissible as per rules.

Qualifications Essential: (1) A.M.S./ A.B.M.S. or equivalent qualification in Indian Medicine recognised by the University. (2) D. Ay. M. or Research Degree of Doctorate standard in Dravyaguna—Rasa Shastra. (3) About five years teaching experience in Indian Medicine in any recognised Institution as a Lecturer or on equivalent post in the subject. **Desirable**: (i) Considerable experience of Pharmaceutical work. (2) Original Research publications in Dravyaguna—Rasa Shastra. (3) Qualification in Modern Pharmaceutical or Medicinal Chemistry.

5. Reader in Medicinal Chemistry: (Pharmacology) (One).

Grade: Rs. 1200-50-1300-60-1900.

Qualifications Essential: (i) Good academic record with first or second class M Sc./M.V.Sc. Degree in Pharmacology or M. Pharm. Degree with special paper in Pharmacology or equivalent qualification. (2) Either a Doctorate Degree in Pharmacology or published work of a high merit in reputed journals. (3) Five years research and/or teaching experience in Pharmacology Department of any recognised Medical College or Research Institute. **Desirable**: (1) Experience of Biochemical and Chemical Pharmacology work connected with research on Indian Medicine. (2) Research-publications.

Note: Those who have applied in response to our earlier Adv. No. 18/1975-76 need not apply again.

6. Technical Officer for Mass Spectrometer: (One).

Grade: Rs. 700-40-900-EB-40-1100-50-1300.

Qualifications Essential: (1) First or High Second class M.Sc. in Chemistry or Physics, B. Tech. (Chemical or Metallurgy or Electronics) (2) Two years' experience in operation, repair and maintenance of Mass Spectrometer/ Electron Microscope in any University or Industry or Research organisation. **Desirable**: (1) Ph. D. or interest in R & D activity in instrumentation.

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THE UNIVERSITY OF BURDWAN

Advertisement No. 7.

5th October, 1977.

Applications are invited for the post of Registrar of the University on the scale of pay of Rs. 1500-60-1800-100-2000-125/2-2500 with admissible allowances. The post is permanent. Person appointed will be on probation for one year and may be confirmed thereafter on the basis of approved service.

Qualification and experience required

High academic distinction with consistently good academic career and 10 years' experience in administrative position in academic line, preferably in a University.

Age: Preferably Between 45 and 50.

Qualification, experience and age requirements may be relaxed in the case of a candidate who may be recommended by the Selection Committee as highly competent for the post. Selection may not necessarily be confined to those who apply formally.

Six copies of application in plain paper giving complete bio-data of the candidate and attested copies of certificates and testimonials along with the fee of Rs. 5/- payable by crossed I.P.O. drawn in favour of the Finance Officer, University of Burdwan are to reach the office of the Registrar not later than the **21st November, 1977**.

REGISTRAR

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UNIVERSITY OF DELHI

Adv. No. Estab. IV/46/77

Applications on the prescribed form are invited for the posts of Assistant Registrars/Administrative Officers/Assistant Controllers of Examinations, in the Scale of Pay of Rs. 700-40-900-EB-40-1100-50-1300 plus usual allowances as admissible under the rules in force in the University from time to time.

Qualifications

A Second Class Master's Degree with 10 years' Office experience of which at least 5 years' should be in a supervisory capacity.

The prescribed application form can be had from the **Information Office** of the University either personally or by sending a self-addressed envelope (size 5″ × 11″) with postage stamps worth Rs. **2.55**.

Selected candidates will have to produce the original documents relating to their age, qualifications, experience, etc at the time of interview.

Applications accompanied by attested copies of Degrees, other certificates, etc. should reach the undersigned not later than **31st October, 1977**.

Note:
1. It will be open to the University to consider the names of suitable candidates who may not have applied. Relaxation of any of the qualifications may be made in exceptional cases, on the recommendations of the Selection Committee.
2. Canvassing in any form by or on behalf of the candidates will disqualify.
3. Those who had applied in response to the earlier advertisement, **need not apply again** but in case they have any additional information to supply, they may do so.

Delhi-110007
12th October, 1977.

REGISTRAR

UNIVERSITY NEWS, OCTOBER 16, 1977. Regd. No. R. N. 7180/63 Postal No. D. (C) 534

SRI VENKATESWARA UNIVERSITY

Applications are invited in the prescribed form for the following posts in the University Service on or before **31-10-1977.**

I. S.V. University College of Sciences
1. Lecturer in Physical Anthropology and Pre-historic Archaeology
1 (one)

II. S.V.U. College of Arts, Commerce and Law
1. Lecturers in Social Anthropology
2 (two)

Scale of Pay

Rs. 700-40-1100-50-1600.

All the above posts are temporary; but are likely to be made permanent. They carry D.A. etc. at the University rates.

There will be reservations for S.C./S.T./B.C. candidates according to U.G.C./State Government guidelines.

Prescribed application form and particulars of qualifications etc. can be had from the Registrar, Sri Venkateswara University, Tirupati-517502 on payment of Rs. 5/- either by Andhra Bank/State Bank of India Challan or by crossed Indian Postal Order drawn in favour of the Registrar, payable at the S.V. University Campus Post Office, Tirupati-517502 (Andhra Pradesh).

Money orders and cheques are not acceptable.

REGISTRAR-IN-CHARGE

Dated: 27-9-1977

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PANJAB UNIVERSITY CHANDIGARH

Advertisement No. 27/77

Applications are invited for the following posts so as to reach the Registrar, Panjab University, Chandigarh, by **8.11.1977** along with postal orders for Rs. 7.50 each for posts at Sr. Nos. 1 to 5 and Rs. 5.00 for the post at Sr. No. 6. Number of posts is indicated with the subject. Qualifications Essential and desirable be perused carefully.

1. Readers in Inorganic Chemistry-2
(Pay-scale: Rs. 1200-50-1300-60-1900)

Qualifications
Essential

(i) A first or high second class Master's degree of an Indian University or an equivalent qualification of a foreign University in the subject of Inorganic Chemistry with bright academic record.

(ii) Either a research degree of doctoral standard in the subject of Inorganic Chemistry or published research work of high standard in journals of repute.

(iii) About 5 years experience of teaching post-graduate classes at University or college level and experience of guiding research.

Desirable

Specialisation: Inorganic Chemistry especially in the field of Chemistry of non-aqueous solvents and fluorine, organo-metallic and co-ordination compounds.

2. **Lecturer in Physical Chemistry-1 (Temporary)**

Pay-scale: Rs. 700-40-1100-50-1600.

3. **Technician-cum-Lecturer-1 (Department of Chemistry)**

Pay-scale: Rs. 700-40-1100-50-1600.
Qualifications For Posts at Serial Nos. 2 & 3

Essential

(a) A Doctor's degree or research work of an equally high standard and

(b) Consistently good academic record with 1st or high 2nd class (B in the seven point scale) Master's degree in a relevant subject or an equivalent degree of a foreign University.

Having regard to the need for developing inter-disciplinary programmes, the degree in (a) and (b) above may be in relevant subjects. Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of a very high standard, it may relax any of the qualifications prescribed in (b) above.

Provided further that if a candidate possessing a doctor's degree or equivalent research work is not available or is not considered suitable a person possessing a consistently good academic record (weightage being given to M.Phil or equivalent degree or research work of quality) may be appointed provided he has done research work for at least two years or has practical experience in a research laboratory organisation on the condition that he will have to obtain a Doctor's degree or give evidence of research work of equivalent high standard within five years of his appointment, failing which he will not be able to earn future increments until he fulfils these requirements.

Explanation

1. Candidates for being eligible for recruitment to the posts of Lecturers must have a 1st or high second class (B in the seven point scale) at the Master's level and for determining consistently good record, average of 50-55% or (B in the seven point scale) may be expected at the two examinations prior to the Master's examination.

The following two examples would illustrate the above:

(i) A candidate who has obtained 52% marks at the Higher Secondary/Pre-University/Intermediate and 58% at the Degree level would have an average of 55% and as such could be considered.

(ii) A candidate who has obtained 60% marks at Higher Secondary/Pre-University/Intermediate and 50% at the Degree level would have an average of 55% and as such could be considered.

Desirable
Lecturer in Physical Chemistry

Specialisation in thermodynamics, statistical Mechanics & quantum Chemistry.

Persons having post-graduate teaching experience will be preferred.

Technician-cum-Lecturer

A doctoral degree or published work in the subject of Organic Chemistry.

Master's degree with 1st class or high second class in Organic Chemistry.

Persons with experience of handling spectroscopic instruments will be preferred.

4. **Junior Research Fellows-3** (Rs. 400/- p.m. fixed each)

(Under UGC Programme of Special Assistance in the Department of Chemistry)

Qualifications

A first or high second class Master's degree preferably in Inorganic Chemistry

5. **Research Scholars-2**
(Rs. 400 - p.m. fixed each)
(Department of Biophysics)

Qualifications

First or high second class Master's degree in the relevant subject with bright academic record and aptitude for research.

6. **Research Assistant-1**
(Pay-scale Rs. 300-25-600)

(Department of Pharmaceutical Sciences)

Qualifications

A first class M. Pharm. degree.

Desirable

Some research/teaching experience

Candidates for the posts of Readers who do not possess a Doctoral degree are required to submit 10 typed/cyclostyled copies of brief resume of their research published work. Separate application should be submitted for a post in a different Department. 15% posts of Lecturers will be reserved for the members of the Scheduled Castes and 2% for the members of the Scheduled Tribes, but these will be filled up by others if no suitable Scheduled Castes/Scheduled Tribes applicant is available.

Persons already in service should route their applications through proper channel. Incomplete forms and those received after the due date will not be entertained. Serving employees, may however, send their applications on the perscribed proforma direct to the University. They may route another copy through their Departments. They will be allowed to present themselves for interview only on the production of a 'No Objection Certificate' from their employers. Canvassing in any form will disqualify a candidate.

Application forms can be obtained from the office of the Finance & Development Officer, Panjab University, Chandigarh, by making a written request accompanied with self-addressed stamped envelope of 23 x 10 cms.

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University News

A CHRONICLE OF HIGHER EDUCATION & RESEARCH NOVEMBER 1, 1977 80 PAISE

Examination Reforms • Selective Admissions

Shri R. L. Anand, Director, NIS, presenting NIS Shield to the Prime Minister during the inauguration of the 7th International Track & Field Coaches Congress held at Patiala on October 10-13, 1977.

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Hony. Editor : **ANJNI KUMAR**

Democratic Experiment in Delhi University

Subrata Mukherjee

A very important and welcome development in Delhi University in recent years is the introduction of teachers' participation in college administration through the formation of Staff Councils in 1971, which is a mandatory body for each college under the university and which, according to the original ordinance, "shall be a decision-making body on all policy matters relating to the administration of the college".

This is the first time that the entire teaching staff of the colleges, including the librarian and the director of physical education, have been entrusted with the responsibility of running colleges. The decision is an important step towards democratisation as the Councils, according to the original scheme, is to perform all the functions connected with the college administration and is to formulate policies "within the framework of the provisions and regulations of the university in force from time to time."

The important functions of the Staff Councils are to be "(a) allocation of work-load of teachers and preparation of college time-table; (b) allocation of extra-curricular work of teachers; (c) formulation of recommendations on introduction of new teaching post(s) department(s) and expansion of the existing departments and other academic questions; and (d) formulation of recommendations on admission of students."

The Council's responsibilities also include formulation of guidelines regarding arrangements for the residence, welfare, discipline and supervision and organisation of teaching of students, in consultation with the appropriate students' organisations; and formulation of recommendations of extra-curricular activities, including cultural activities of students, sports, games, National Service Scheme and other social service schemes, academic societies, college canteen and other amenities, in co-operation with the appropriate students' organisations.

Besides, the Councils are entrusted with the task of formulation of policies and guidelines for allocation of staff quarters and financial assistance to teachers; making purchases of library books and laboratory equipment in consultation with the appropriate departments; and such other policy matters as may concern the functioning of the colleges.

As such, within the ambit of the university rules and regulations, the ordinance wanted the Staff Council to play a very crucial role within the university set-up, for the first time involving all the teachers and paving the way for collective decisions. The introduction of the scheme was welcomed by almost all those connected with the university, and it can be safely asserted that "the experiment" has, by and large, proved successful when judged in the context of the later developments in the university and the structural limitations inherent in the formulation of the Staff Councils.

The university, because of some mysterious reasons, instead of further extending the scope and position of the Staff Councils, along with increasing substantially teacher representation in other decision-making bodies, like the academic council and college governing bodies, further restricted the jurisdiction of the Staff Councils by a subsequent ordinance, so much so that with the changes introduced the Staff Councils have lost most of their powers in decision-making. Only the secondary functions remain with the Council. This has made the office of the college principal much more powerful when the need is to bring this office along with other policy-making bodies within the overall purview of the Staff Council. This is more so because the most serious limitation of the scheme is the retention of permanent principals in colleges, though in the present scheme he is to function as "Principal in Council".

The second is that the scheme does not seek to replace the private governing bodies, which administer the colleges and though contribute only a fraction of the expenditure in running the colleges, are responsible for most of the inadequacies prevailing in Delhi University colleges.

Thirdly, the non-teaching employees have been given no representation in the Staff Councils and "the administrative staff of the college will not be within the purview of the Staff Council." This means that the Staff Council has absolutely no say regarding the non-teaching employees, nor are they associated with policy formulation in any way. Lastly, the association of students with the Staff Council is of a very limited nature.

The main lacuna in the system is the continuance of the institution of permanent principalship, which goes against the spirit of democratisation. A defiant principal can always defy the Staff Council and by his power of patronage and permanent tenure may, if he so desires, jeopardise the functioning of the Staff Council and its various committees.

If the Staff Council is to be the ultimate and responsible decision-making body in the college, the first pre-requisite is the replacement of permanent principalship with principalship by rotation. This will enable all the members of the Staff Council to function without any interference from a particular person who may not see eye-to-eye with the functioning of the Staff Council.

This principle is also desirable from another point of view, since all the important offices in the university rotate and have a limited tenure, the institution of permanent principalship is an anachronism in the present-day university structure. During the emergency, this special status of the principal received a further boost and a powerful principals' association came to the limelight and the whole concept and spirit of the Staff Council was ignored. So much so that even when in a well-known campus college when 70 per cent of the staff requisitioned a meeting of the Council, no meeting was called and the principal concerned took all the decisions by himself, in clear violation of all the statutes and conventions of the university.

The unhappy situation obtaining in this college for the last few months would not have arisen, if the principal had accepted democratisation in its true spirit and acted according to the spirit of democratic functioning. On the contrary, he has never co-operated with the Staff Council, has refused to call meetings at regular intervals and discuss important policy matters at the Council.

Moreover, the principal happens to be the ex-officio chairman of the Staff Council and there is no means by which he can be censured, even if he decides not to co-operate with the Staff Council. The principal also has emergency powers and the decision on what constitutes an emergency is left entirely to him.

Thus, although the Ordinance clearly states that "within the framework of the provisions and regulations of the University in force from time to time, the principal in the administration of the college shall act as principal-in-council" the principal, if he so desires can act otherwise.

For example, in spite of the recommendation based on a criterion applicable to all departments of the New Teaching Posts Committee in a college, the principal has virtually rejected its recommendations and is allowing for the last so many months, two more lecturers to continue in the Department of Hindi, above the sanctioned strength of eight. Such whims and fancies of the principals are not exceptions. The crux of the matter is that to make the Staff Council effective one of the most important pre-requisites is the acceptance of the idea of principalship by rotation.

The second most important limitation of the Staff Council is that its introduction does not eliminate the major evil of Delhi University college—the private governing bodies. The Staff Council do not replace them, but only remain subordinate to them because they do not enjoy any power which vests with the governing bodies. The governing bodies, making only token contributions in the running of the colleges continue to enjoy all their rights and privileges and teachers continue to remain only employees though the Staff Council is a decision-making body in many aspects of college administration.

The Staff Council being subordinate to the governing body, and the latter continuing with their present composition, seldom does a congenial atmosphere prevail in the colleges. No opportunity seems to be missed by the governing bodies to harass teachers and non-teaching employees. Even a strictly personal thing like an inter-communal marriage may earn the wrath of the governing body. Moreover, bogies like the "minority colleges" continue to be raised by certain sections with active support of some governing bodies, even though this is opposed by an overwhelming majority of the teachers of Delhi University.

There is little doubt that democratisation of the University structure is a measure that has come to stay and the first move in this direction, the creation of Staff Councils, has the overwhelming support of teachers, non-teaching employees and students. What is now needed is to make the Staff Council a real decision-making body with the participation of teachers, students, non-teaching employees and may be representatives of the alumni. What is called for is a wholesale change, including the composition of the university departments, revitalisation of the federal structure of the university with more participation of the college teachers in postgraduate teaching, includ-

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Examination Reforms: A Plan for Action

M. H. Jagdale*

The University Grants Commission has explored various ways and means of raising the standards of teaching and has suggested examination reforms as a major reform requiring immediate attention. Any reform, contemplated to improve teaching, though desirable, would not bring about expected results unless our present out-moded system of examination testing only memorised knowledge of the student is replaced by a better and more dynamic evaluation system. After this is done, we can introduce changes in the methods of teaching, learning and the coordination between teaching, learning and testing can be brought about more effectively.

In this context, the Chemistry Department of Shivaji University has introduced from June 1975 a promising examination system at the M.Sc. level. The scheme was originally proposed by the present author and Dr. V.M. Parikh, Visiting Professor from Notre Dame University, B.C., Canada to the University authorities. The proposal coincided with a call from the Prime Minister, Chief Ministers and many eminent educationalists of the country for Examination Reform, in view of the manifold problems posed by the original system. The new system will evaluate not only the extent to which the students have been able to grasp the subject matter but also test their ability to make use of their knowledge. Key goals underlying this reform include (i) restoring the confidence of the students in their educational and evaluation processes, and (ii) to raise the image of the educationalists in the eyes of the students and the public.

Aims of Education

The effectiveness and the long lasting usefulness of a graduate to the society will depend upon the (i) proper curriculum design (ii) the efficiency with which smaller units of the curriculum are taught and grasped, and (iii) the overall assimilation of the entire syllabus of study by the student. While considering any reforms in higher education, one must work backwards by first establishing the aims and goals of a particular course of study and determining the best course of action to achieve these goals. The basic aim of science education for example, is to develop in the nation an ability to tackle and solve the manifold problems facing society and humanity at large. A science graduate so trained should be able to isolate a problem, analyse it, hypothesize probable solutions to it, and be able to solve or at least to suggest the most effective strategies for solving the problems. His analytical mind should even be able to foresee the problems that society may encounter in the future if a particular course is followed by the society. Such an analytical ability cannot be developed in a society whose educational system is based largely on stuffing the student with a huge quantity of irrelevant data and on evaluating broadly his ability to memorise this data.

Education should be closely related to environment, in such a way that it would promote the basic values of humanism, democracy and socialism and help in creating a new egalitarian and just social order, develop the personality of the individual in order to maximize the realisation of his potential and his commitment to social good, stretch the need for an individual to exert himself to the utmost through discipline and hard work, inculcate in him habits of self-study with a view to enabling every individual to be a life long student and emphasize competence and performance rather than attainment of degrees or certificates. Futhermore, access to higher education should be provided not only on the basis of merit but also in keeping the principles of social justice, and institutional facilities for full time higher education should be regulated broadly on the basis of manpower needs or employment opportunities.

Teaching and Examinatian Plan

According to this system, a comprehensive plan of teaching and assessment (internal tests) of all the papers was made and distributed to the students at the beginning of the semester. Each course or paper was divided into some four to seven units, with each unit comprising a unified topic and satisfying a set of precisely defined objectives. A reading list consisting of chapters with page numbers from at least four to five books along with research references was given for each unit to define the exact scope of the unit. Each unit was taught over a specific period of time as the teaching plan supplied to the students and within a week after its completion an hour long test was administered. After every test the teacher who has taught the unit and who is also the examiner puts up on the notice board model answer with a detailed scheme of marking. Students' answers were marked on the basis of the model answers and returned to them early. As a means of instant feed-back of their abilities and understanding the students were encouraged to compare their answers and marks not only with the given model but also among themselves. Thus, the student could see precisely where he erred and, by checking with the model answers, note exactly what is expected of him. He also could observe whether his script had been corrected properly.

For each paper (course) such internal examination carried 75% of total marks and the remaining 25% marks were alloted to the final examination. The final examination, in fact, was treated as a test, except that this examination covered the entire syllabus. Paper setting and marking of scripts at this test was done entirely by external experts. Passing at this or any other individual test was not mandatory. However, the students were required to obtain a minimum total of 40% of the marks in combined internal and external examination.

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*Professor, Shivaji University, Kolhapur.

The total number of marks for the periodical unit tests was 75%. This weightage was necessary for making the students give them the due importance. If this percentage was reduced the students would not care for these examinations, nor would they prepare seriously for them.

The course teacher was obliged to prepare model answers (preferred answers) and put them up on the notice board after every unit test and mark the answer papers accordingly. The teacher himself answered these making sure that he was able to answer them in about 2/3 of the time alloted to the students to answer. In a system, where the model answers are posted and the marked answers books are returned to the students, malpractice of any kind and even human errors in marking are taken care of because the students can compare their answers and marks with those of their classmates and make an immediate appeal to the professor concerned.

An elegant but simple appeal procedure further removed any chances of error or corruption. The lower level of appeal for the aggrieved students was the professor concerned. Where the professor himself corrected any errors in his markings. A human error in marking, therefore, posed no problem. If the student is not satisfied at this level he can appeal the Head of the Dept. Equipped with the model answers, the Head can usually settle the issue. However, if the complaint is not redressed at this level, he can seek justice in the hands of an independent vigilance committee set up by the Vice-Chancellor. The aggrieved students as well as the aggrieved professors, and even the Heads who feel that a particular professor had not taught his course with the required deligence and rigour can present their cases before this committee. For example, if there was a wide difference between the marks scored at the external examination at the end of the semester and the internal examination, the professor concerned is answerable to this committee. The vigilance committee was empowered to recommend strong action against a professor in cases where a malpractices was established. But such a possibility was very unlikely as the formation of such a committee itself acted as a deterrent to any possible corruption.

Therefore, there was no scope whatsoever for any kind of partiality in marking at these examinations. No pressure could be brought on the examiners. He was bound by law and need not succumb to any kind of pressure. Moreover, this above board approach towards evaluation was of crucial importance in restoring the student's confidence in his educational process.

Defects of the Old Examination System

The very nature of the present annnal examinations system is such that the examiner has only 3 hours to find out what the students have grasped during the past whole year or a Semester. The future of the students depends upon what he writes in these three hours. Therefore, he is tempted to prepare selected topics and the object of the study shifted from the legitimate one of getting knowledge to merely facing "The three hours" ordeal successfully. It is impossible to imagine how a student can display the knowledge he has acquired through the entire years within 3 hours. Real study has no place in this system. It can lead to disappointing results. No distinction can be made between a student who studies consistently throughout the year and the one who prepares just some selected topics. A student going through such a system develops a feeling that marks are more important than education, memorising data is more useful than understanding, and, in the final analysis, luck and manipulations take precedence over regular study and hard work. Assessment of real knowledge is impossible in this set-up. Furthermore, such a short evaluation time forces the paper setters to design questions which are very broad, stereotyped and vague so that a superficial evaluation rather than the precise in-depth analysis of the students abilities, can only be carried out.

Advantages of the Unitized System

The salient features of the system are:

(1) A very high percentage of students, under this system, secure higher-divisions in the examinations. The percentage of failures is reduced almost to zero. The main reason for this is that during the course of the year, under this system, the student studies every bit of the syllabus very carefully. No part of the syllabus is left either because it is incomprehensible or difficult.

(2) The periodical tests, which are very frequent, indicate to the student his day to day progress, and hence the average student tries to make progress by sustained efforts as a result of which his success is assured.

(3) Since the student develops the habit of regular work he is not tempted to use questionable means.

(4) The system creates confidence in the student to handle independently any new topic he is required to in his future life.

(5) Both students as well as professor become more industrious in their respective spheres.

(6) The system may prove quite exacting to the teacher but if he is equal to the task be derives immense satisfaction from being able to guide his students competently.

(7) In this system the student learns to depend on himself both during the course of his studies and at the time of examination and so there will not be any need for guide-books or coaching classes.

(8) As the final examination in this system is completely in the hands of external examiners from another university it keeps everyone on their toes because any adverse report from a faculty member of a rival institution is not to be taken lightly.

Central to this system, besides frequent tests is that the nature of the tests has changed. In this system, it is almost impossible to depend on the vague essay type, memory oriented questions. Such vague questions call for vague answers which are difficult to mark very precisely. The teacher too cannot be very precise in putting up the model answers. Consequently, when the corrected answer books are returned to the students, the teacher finds it extremely difficult to face the music and to justify his marking. The need for precision in marking therefore calls for very precise, well defined objective questions which can test a student's grasp of the subject than his memory.

It may not be out of place, here to point out a general misconception regarding "Objective questions". A question paper with short, one or two mark questions which require very brief one word one line answer is not necessarily an 'Objective Test'. If the exact aims and objectives of a particular course of study are well defined, any set of questions, short or long, designed to determine the exact degree to which prescribed objectives have been achieved can be considered as an 'Objective set of questions'. In fact the new system makes it virtually obligatory for the teachers to devise objective tests concerned with comprehension. In addition, both the fear and luck factors with a single all important examinations are effectively minimised.

The new system calls for a very careful teaching plan and an open evaluation almost from the beginning of the academic year. This instant feedback continuously informs the students of their strengths and weaknesses and helps them to improve their abilities in the subjects gradually. Even the slow learners and those with less than average abilities strive very hard and manage to reach the pass camp. Teachers are able to identify and help these students fairly early in the year. The students too realise the need for help and the overall performance therefore gradually improves and the failure rate goes down to a negligible level.

As the units are interdependent, a proper study of the previous unit or units which this system ensures is of great help in the understanding of the subsequent difficult units. Thus, if foundation is well laid the superstructure erected thereon will naturally be strong. Therefore, the student will be able to make good progress in his studies.

Further, it also helps the department to weed out students, right in the beginning of the Semester who are never likely to succeed before they waste too much of their own time and their country's money. This may sound callous, but there is no point in allowing students to proceed to a new session before they have mastered the work of the previous one.

The experience with the unitized system is that a desirable change has taken place in the attitudes and study habits of the students of the Chemistry Department. Students have realised that a degree certificate in itself is no more than a piece of paper and the possession of it would not help them in getting the jobs in the market unless it is backed by a real knowledge of the subject. In this system every unit is carefully taught and because of impending tests, is properly studied by the student. The student is engaged in study throughout the year and the teacher too is continuously engaged. Both have some sense of achievement.

Yet another merit of the unitized system is that it involves improvement in teaching. Since the teacher has the responsibility of defining the objectives of a course, compiling a comprehensive reading list, and above all, carefully designing as well as precisely answering internal tests, it is inevitable that the teacher's knowledge and experience are augmented and his teaching consequently improved. Furthermore as the tests are concerned with understanding, the teacher will be led, either through self realisation or by his own sense of responsibility or by the student's questions, to explain topics concisely and thoroughly. And finally, the teacher is now fully accountable for the training and grades that the students receive, and thus for the reputation, of the Department and the University. Under such circumstances, the teachers would feel compelled to work hard to establish a good reputation for themselves and their institution. The present author believes that after working with such a system for three to five years, the teachers will have complete mastery over their subjects and will start taking genuine interest in teaching and research in their own fields. This will certainly help the University in producing better quality of graduates and the researchers. It is upto us to convince the public that the service to be offered to them in the form of University graduates justifies the cost involved. In the final analysis, this is an Essential requirement for restoring the dignity of teachers and their profession.

The Future of this System

The ultimate success of this system depends on how its products fare in life. This system ensures that students get exactly the number of marks they deserve. There may be some discrepancies in marking in other systems but it is out of question in this system. Even if the marks obtained by the candidates at the internal and the external examinations put together is lower than what might have been gained under other systems, their standards of achievement are much higher. If then, the new system is flawless, useful and practicable, it is only fair that the other universities and colleges should adopt it. Otherwise, the efforts of those who have been prompted by high ideals in instituting this system will go waste and they will be disillusioned. If on the other hand, the successful efforts of one university are emulated by other universities, it would revolutionize the system.

To sum up, reforms are needed to cope with our rapidly expanding educational system. The old annual examination system is no longer useful and therefore, a system based on internal assessment allowing each institution to find its own level of reputation, is proposed. The University Grants Commission and the Education Ministries can provide the necessary assistance and incentives to help the institutions maintain and raise their standards. However, funds could also be withheld from those institutions which fail consistently to maintain minimum standards. The government is requested to use mild pressure, if necessary, to make our education system more productive and our educational expenditure more effective. The student organizations everywhere in the country should also examine this plan which aims at removing torture of final examination and which also paves the way for a sound and effective education that would ultimately brighten the professional career of future graduates.

Finally the author feels that the implementation of such a self regulatory system would help in developing the spirit of "Work is worship" and the sense of commitment in both the teachers as well as the students, which is the need of the hour. □

CONVOCATIONS

Selective Admissions

Dr. P.C. Chunder, Union Education Minister, delivered the convocation address of Poona University recently. He said that it is unfortunate that the normal functioning of our educational institutes is often disturbed. This is mainly due to the unplanned and uncontrolled expansion, sharp rise in educated unemployment which saps student motivation, fall in teaching standards, inability to provide even the minimum essential facilities and services in a large number of educational institutions at these levels, end frequent unacademic disturbances and agitations which are often engineered by vested or anti-social interests. For quite some time our campuses have been disturbed and in some places, these disturbances have become almost endemic. Apart from the loss of valuable property which this often involves, an irreparable loss of precious time and waste of money and energy occurs when normal teaching is interrupted, scheduled examinations are not held in time, or conducted with scrupulous vigilance, and the basic process of education itself gets adversely affected or becomes dysfunctional. We all have to see that peace is restored in the campus so that the normal life of the educational institutions is resumed and continued undisturbed.

Dr. Chunder said that the system cannot even survive if the desired objectives are not achieved through:

—internal and self-assumed discipline by students and teachers,

—a reform of the educational programme itself to make it more relevant and meaningful,

—a dynamic and dedicated leadership,

—a restraint observed by lay and political elements which should realise that non really gains, and least of all the country, when such disturbances occur in the normal life of educational institutions,

—a sympathetic but firm administration which does not yield on principles and does not hesitate to use a minimum of force when absolutely essential, and

—a planned, concerted and collaborate action on the part of all concerned.

Here, as Gandhiji said, the means are as important as the ends; and a restoration of normalcy to educational life through these methods can, in itself, be a great education, not only to the students and teachers, but to all agencies involved in the process and to the society itself.

The efforts to restore normalcy will be greatly helped if we simultaneously strive to reduce the effect of the factors which contribute to this malaise. Among these, we would like to accord high priority to the control of the haphazard and rapid expansion that now takes place for lack of proper planning and rigorous implementation. There should be proper restraint on the establishment of new secondary schools and colleges and more such institutions should be permitted in underdeveloped areas where a strong justification for their establishment exists. Similarly, proposals for the establishment of new universities should not be taken up unless they are clearly justified on the grounds of academic need and improvement and unless adequate resources are available. Even the existing institutions have to be rationalized to the extent possible and efforts have to be made to ensure that they attain an optimum size where costs per student are reduced and efficiency is increased. The courses taught in colleges and universities have also to be regulated because an indiscriminate opening of such courses without insistence on minimum enrolments leads to high costs and waste of resources.

It has been argued that, although this rigorous control over the establishment of new institutions and courses, careful planning of their locations, and rationalization of existing institutions and courses is desirable and necessary, it is not sufficient and that we must go a step ahead and regulate enrolments as well, through selective admissions, if possible. The selective admissions are already in vogue even at present in all cases where the seekers of admissions exceed the seats available (e.g. in Institutes of Technology, medical colleges, university departments, and prestigeous and high quality institutions). The real issue is whether this policy should be generalized for all secondary and higher education and whether the overall enrolments at these levels should be regulated on the basis of employment opportunities and manpower needs. The problem is not new and has been on the anvil for more than fifty years. But it has obviously become very significant now, in view of the tremendous increase in educated unemployment. The problem also gets easily delimited because there is no question of introducing selective admissions at the beginning of the secondary stage (when the students are too young) and because the need of selective admissions are largely accepted, on grounds of quality, for postgraduate and research work.

In practice, therefore, the issue boils down to selective admissions at the higher secondary and first degree levels in general education only. It is probably both desirable and necessary to regulate the uncontrolled expansion of enrolments at these stages. The first is the theoretical argument that the desire of a young and qualified person to study further should not be denied on the only ground that he is not likely to get a job especially if such desire does not involve a subsidy from public funds. Secondly, many a young boy goes in for further education at these stages because he does not get a job and a girl does so because the age of marriage has risen. While no one argues that education should become a substitute for work or marriage, one cannot ignore altogether the practical problem of what these young persons should do to keep themselves occupied. But above all, strong pressures are exercised, by the less advanced and weaker sections of the community who argue that their access to higher education (which is their almost exclusive channel of vertical mobility) will be severely restricted by selective admissions. On the other hand, one cannot also ignore the growing menace of educated unemployment or the need to conserve the available resources for more urgent needs, especially those of qualitative improvement. The only way out, feasible though not neat and tidy, is a package deal consisting of: proper regulation of institutional facilities for full-time instruction at the higher secondary and university stages on the basis of need, availability of resources and maintenance of standards; adoption of selective admissions, wherever the applicants exceed available places; introduction of reservation of seats on an adequate scale for all weaker and less advanced sections so that their access to secondary and higher education is not adversely affected and even increased, if possible; expansion of facilities for self-study by throwing open all Board and University examinations to private students; and organizing correspondence courses, programmes on the radio and television, and other forms of part-time or non-formal secondary and higher education efficiently and on as large a scale as necessary.

Our policies for the regulation of expansion in secondary and higher education in the next plan will have to be based on these broad principles. Their success will be greater to the extent we succeed in diverting students in different walks of life through vocationalisation at the secondary stage or by delinking jobs with degrees to some extent.

Far more significant and difficult problems arise with regard to the relevance and meaningfulness of higher education and the raising of standards. Among these, the following may be mentioned:

(1) The curriculum of the ten-year school is over-crowded with subjects and over-loaded with information and is more oriented to creating memory machines than to personality development. This load has to be reduced and more time found for work-experience, physical education, games and sports, cultural activities and community service. Action on these lines is being taken.

(2) It is obvious that the same liberal, university-preparatory, general secondary education is not suited to all students, especially at the present levels of expansion. A diversification and channelising of a large proportion of students into vocational courses that will lead to useful and productive employment is a must. But in spite of all efforts made for the purpose over the last so many years, the problems of popularizing these courses, finding out fresh avenues of employment, designing suitable courses, training teachers, providing equipment, etc. are still baffling us. Ways and means have to be found to have a much greater involvement and support from industry. A more resolute and intensive effort, including a good deal of planned experimentation, is needed in this area which should continue to receive priority attention.

(3) The existing undergraduate courses are mainly structured as preparatory to postgraduate studies, and are over-weighted with an almost academic introduction to some disciplines. They need to be restructured to meet the diversity of student needs and new social objectives, especially because 95 per cent of the students at this stage do not go in for postgraduate studies. It is desirable that every student at this stage is given general education relating to such important themes as social and economic life in India, our struggle for freedom and for national development, scientific method and science and technology. He must also be required to do some field-work and gain practical experience related to the subjects of his study and participate in some meaningful and challenging programmes of national development such as adult education. This will provide a more rounded and richer education.

(4) It is essential that all educational institutions develop meaningful programmes of community service. In higher education, all universities should have all the three functions—teaching, research and extension—and should place an equal emphasis on them.

(5) The methods of teaching and evaluation will have to be radically changed; the lecture method which now dominates the scene should be given its proper place; and the emphasis should shift from teaching to either self-learning or to dialogic learning through seminars and discussions.

(6) The current emphasis on development of postgraduate work and research, both fundamental and applied, as well as the emphasis on the development of science and technology suited to our needs and programmes of national development will have to continue.

(7) Standards in education, depend, first and foremost, on hard-work and dedication. We must therefore try our best to create such a climate in all our educational institutions and especially in those at the university stage which set the pace for the entire educational system.

Good administration is unfortunately scarce in education, and the weakness stares one in face in the university system. Vigorous and well planned steps are needed to improve administration of secondary and higher education and we hope to highlight the programme over the next plan period.

The financing of secondary and higher education also presents several problems. The systems of grant-in-aid needs a review, especially those for affiliated colleges wherein heavy strains have been created by the introduction of new scales of pay. The excellent lead given by the Government of Gujarat in this regard needs attention of other Governments.

There is also a case of curtailing of wasteful expenditure and effecting economies (while improving standards) through measures like co-operative teaching. The planners have been arguing that the subsidies which go to the rich and well-to-do classes (who have a lion's share of facilities in secondary and higher education) should be reduced and that while fees for the poor should be decreased or abolished, those for the well-to-do and the rich should be increased. All these problems need attention on a priority basis, especially in view of the fact that the new priorities will make the financial situation in secondary and higher education still more tight. ☐

Aspirations of younger generation

Dr. Ashok Mitra, Minister, Finance, Development and Planning, Government of West Bengal delivered the convocation address of the University of Madras this year. Excerpts from his address are reproduced below:

"This day belongs to the young graduates, and in my brief remarks I will address myself primarily to them. Their generation is the source of my envy. Unlike myself and my contemporaries, they have been born in an independent country; their thoughts, reflexes, feelings, emotions are not haunted by the externality of colonialism or imperialism. I often wish I could sneak my way in and become familiar with the working of their mind. It must be altogether different from the way our mind operated when we were students in the thirties and forties. I realise that this feeling is perhaps reciprocal, and my young friends feel equally estranged by the manner of approach of our generation to national issues and problems. My appeal to them would be to, please, bear with us. For, imperial subjugation is an experience which cannot be altogether described. You either live through it or you do not. You can, *ex post*, read about its humiliations and indignities in books and reports and documents. What you learn thereby is second or third-order knowledge? Such vicarious knowledge cannot but suffer from an ersatz quality.

Consider our circumstances in those dull, grim pre-Independence days. Tenacity writ large across our heart, we did fight the alien power which had put us in dungeons. None-theless, a streak of inferiority complex was our particular heritage. We opposed the British, plotted and conspired against them, but we also had a sneaking respect for them, a respect similar to what was proferred by a feudal serf toward the manorial lord. A considerable number amongst us would exhibit a diffidence—diffidence which is the hallmark of people who knew that they did not control their own destinies, who knew that they did not make the crucial economic decisions affecting their lives and living, who know that, upto a point, they are mere marionettes, the coordinates of their acts and activities being determined by others.

It is a different climate now, the texture of the sky is totally transformed. The new generation—those to whom the young graduates, who are today passing out, proudly belong—are not hemmed in by difficulties of the kind which bogged us down. Whatever else one may say, politically we are an independent entity. True, political decisions, are invariably linked to, and follow from economic decisions, but the latter are these days in the main the prerogative of groups and individuals who are very much part of this nation. There is of course no dearth of quasi-attractive theories which passionately weave a tapestry of exploitation on a world-wide scale. All honour to such theoreticians, but in our case, we are, let me suggest, perfectly capable of producing our own set of exploiters, and thus need not look up to either the former colonial powers, or to other external agencies, for filling in the role of villain.

It is an independent nation, and our young graduates are the standard-bearers of a glorious sovereignty. The shadow that falls is however of a different genre. It is an independent nation, but not a homogeneous one, and here I am referring not to the regional and linguistic fissures which occasionally claim the headlines. It is a divided nation, because, as I have just said, economics is the prime determinant of each major decision in life. The economic frontiers separating the different sections of the community make this nation a heterogeneity.

This poses a challenge the nature of the challenge is however different from what those belonging to our generation had to face. How does one mould this heterogeneous nation together, hold it together? Where different interests are involved, most economic decisions arrived at are the outcome of a continuous series of bargains and counter-bargains. A bargaining process is also a competitive process. This is where most of the problems emerge. In our society, competition is not generally on even terms; on the contrary, most of the time, it is uneven and unequal. The bargaining capability of a class is related to the size and composition of the assets it owns, or it has come to hold. Asset formation conforms to a certain historical law. Those who have assets can build upon them, expand them, multiply them, over and over again. This has to be so, for assets are the source of income, income is the source of saving, saving is the source of additional asset creation. Once, by happenstance or otherwise, you come to acquire some assets, your day is made. Given a modicum of application, and I am tempted to add, lack of social conscience, you can, from them on, move rapidly to higher and higher levels of accumulation, wealth, income. In contrast, those without assets will be denied the opportunities of advance, including the opportunities for education, for gainful employment, for earning a decent income. Since income is non-existent, for them there can be no saving out of income, and since they cannot save, they remain without the benediction of capital formation. They begin being assetless, they continue to be assetless.

This, alas, remains the principal problem for the nation. Other issues such as linguistic heterogeneities and regional disparities in income and wealth are, I submit, of a derivative genre. For instance, if the farming classes in a wheat-growing State happen to be richer than those in a rice-growing State, the answer to the riddle may lie in the fact that the average size of the holding in the wheat-growing State is lunger than in the rice-growing one. It is the size of the holding rather than the spatial location which is the crucial factor. If an artisan in Coimbatore finds the prospects foreclosed for him, while his counterpart in Jullundur forges ahead, the reason could simply be the capital accumulated by the latter in the past as against the lack of funds on the part of the former. In any case, the community of interests among the rich farmers or traders or industrialists transcends the boundaries of regional or linguistic loyalties. The asset-holders of the world always unite and act in concert. Unless the problem can be tackled at its source, namely, in the maldistribution of assets and opportunities as between classes, piecemeal attempts at removing inter-regional inequalities are unlikely to make much headway.

To the young friends who are graduating today I would, therefore, make a plain and simple appeal. They are the luckier ones in society. They have the exceptionally good fortune of being the end-products of a university education. Education is a precious asset; seventy per cent of the nation is denied the possession of this asset, even in its most elementary form, despite the lapse of thirty years since Independence. University education is an even more precious asset. Those receiving their degrees and diplomas today constitute the nation's elite; they are a privileged group; they are among the major asset-holders in society. They will now enter the murky area of market-bargaining with their advantage of superior knowledge and skill, they will easily outbid those who have not been as lucky as they are. Without their even quite realising it, they will be instrumental in aggravating further the existing social and economic inequalities.

True, I should not generalise. Not all of our bright young graduates will be equally fortunate. In some parts of the country, industrial and commercial growth has screeched to a halt, casting a shadow on employment prospects. This aspect of the matter is not to be underrated. Even so, those with a smattering of university education or technical skill stand a much better chance of obtaining gainful work than others who have not had this opportunity. Sooner or later, those, who have accumulated learining will forge ahead. Sooner or later, they will succeed in earning an income which will be a significant multiple of what those who have been denied educational opportunities will ever be able to enjoy.

The emerging inequalities can and will take diverse forms. It will have its regional as much as its linguistic manifestations. Sometimes, these inequalities will appear in the garb of caste differentiations too. But, scratch the surface, and you will confront the overriding reality: aspects of caste, religion and language are really so many veils, they conceal the more fundamental fact of economic disparities.

What our own dreams and aspirations were when we were students, or were about to cease to be so, in the mid-forties, may not be considered as terribly relevant in the context of today. If our ideological fads are to be spurned by the younger generation, so let it be. I would rather sit down with the young ones, and pry out of them their view of the world, the world which is their special heritage. But is it not precisely their world that I am describing? Can they really get away from the fact of the non-homogeneity of class interests? In the kind of polity built in India in the course of the past thirty years, the overwhelmingly large part of the nation's assets has been monopolised by a microscopic few. So too it has been with the asset with which those assembled here today are more directly concerned, namely, education. Few amongst the nation's millions were able to secure educational opportunities during this period, particularly few amongst those who belong to the working classes. The proportion of those without letters in the total population has diminished only marginally since 1947. Priority has belonged to elsewhere, and not to universal education, whatever the edict laid down in the Constitution. In the allotment of educational funds from Government sources, the bias has been pronounced outspoken, overt elementary education has invariably been considered to be a marginal, dispensable issue. Each time a shortage of resources has occurred, the axe has fallen on the allocation for primary education. The corresponding allocations for higher education, including, let me add, management education, have not suffered or have suffered only insignificantly. Education has remained a hoardable asset, to be deployed only for the edification of the few. Through random accidents, outsiders have every now and then succeeded to pierce the class barrier and force their way into the charmed circle of the educated, as a result, they have made it good, they have in due season been absorbed into the establishment. But this has happened only with a limited number the overall social disparity in the endowment of education has widened with each year.

In any epoch, the ideas of the ruling classes become the ruling ideas. Those who ruled the land throughout these years perhaps had considered it prudent to keep the poor away from learning, perhaps on the principle that a little learning is a dangerous thing. But to pursue with this policy would be disastrous shortsightedness. For one thing it is sheer illusion that the economic growth of a country can be furthered where 70 per cent of more of the population remain beyond the pale of literacy. The denial of educational opportunities would imply the denial of opportunities to participate in the process of development itself. It is not only that a proper technological environment would fail to develop; the efficiency of labour too would lag behind. The problems on the demand side would prove equally interactable. Since nearly three-quarters of the nation would have little of income, they would be in no position to contribute to the growth of the market which could help the economy to expand. The demand for mass consumption goods would taper off, the luxury demand of the upper classes would not compensate for that, stagnation would stalk the land.

None of these is speculative. It is a description of where this country has already arrived. And if the preponderant sections are left out of the process of economic growth, they will not necessarily standstill. They will not wait for ever, they will not wait for the governing classes to change their mind and condescend to provide the poor with some morsels of education. The poor are a wizened crowd, they have a way of learning, even if it be the hard way. It may take a while, but there is such a thing as percolation of ideas. It is an imperfect world knowledge, too, is imperfect. Even so, sooner or later, the poor and the deprived will learn on their own, and without the benefit of any formal education too, the fundamental issues underlying the problem of poverty. They will learn about the phenomenon of asset-structure, they will learn how asset are created in the first place, how assets are denied to some sections even as other sections keep adding to them. Such knowledge will not respect any contours of class or clan, caste or language, region or community. By its very nature, this knowledge will be subversive. It will be an asset for those who hitherto had none. Those who come to acquire this asset will seek to deploy it for countering those others who believe in the *status quo*. It will be the precursor of tension in the system. Tension, acrimony, bickering, jealousy, hatred: such will be the inevitable linear outcome of the development which I apprehend.

I said earlier that I envy the young graduates who are to-day passing out. Do I really? For them, it will, I am afraid, be a very unquit world. They may, each of them, obtain a position. They may, for some while, become part of the distinguished establishment. They may reach upto the sky. But, give or take a few years, history will catch up with them. History has a rather strange way of asserting its own laws. It is full of surprising nooks and corners; its inherent logic however always remains unimpaired. This logic says that it is an unequilibrated system where, for years and decades on end, assets and opportunities continne to be mal-distributed. Pressures are bound to arise in such a system, rebellious impulses are bound to rear their head, and these impulses can take all kinds of unpredictable forms. These forms are unpredictable only in the sense that one cannot foretell either the timing of their occurrence or the nature of their frequency.

To the young people of to-day, who have had the immense good fortune of receiving a university education, I therefore have a single word, not of homily, but of friendly suggestion. They must enjoy life, relax, do their duty by their near and dear ones. At a certain juncture, though, they must also learn occasionally to step out of their immediate environment, from their milieu of careers and promotions and secure livelihood; this they have to do for their own sake. If they want to avoid a future convulsion whose impact they would be unable to contain, they must themselves, on their own, think in advance, plan in advance, execute in advance tasks which may currently appear to militate against their own class or group interests. If they want to survive in this heterogeneous society of ours which is India, they can do so only on the basis of an understanding reached with those who are at the moment beyond the pale of privilege. They can ignore only at their own peril a certain minimum awareness of the social process: assets that you corner to-day may be to your advantage at this instant, but once you take into account the long-run consequences of such assets-hogging, you would rather do without them. If it is conceded that a tranquil climate is a major factor contributing towards rapid economic growth, one must then be prepared to pay the exchange value of this tranquility: it can be had only if assets are reasonably distributed.

But how does one shed assets? How does one disinvest one's capital asset of education? It is not so much a question of shedding what one has, but of allowing others to share it equitably. Human nature being what it is, few feel like voluntarily diffusing their power and influence. There are also those who genuinely believe tomorrow to be as distant as eternity. This is hardly so. The system will be subverted from both within and outside, if the entrenched ones refuse to give up their privilege, at least in part, and on an immediate basis. The choice is theirs. It is for ensuring their own survival that changes must be brought about in the edifice, and some of the opportunities begin to flow towards the direction of the wretched of the earth. The alternative is a holocaust whose implications fail the imagination. If you want to avoid subversion, therefore, my suggestion to each of you, my young friends, would be; come, preach some subversive message yourself. It is only through subversion that you can survive. This is then the final thought I want to leave with you: be subversive, there is no greater way for you to serve society, there is no greater way for you to serve your own self-interest either."

CAMPUS NEWS

Calcutta Courses in History of Science and Technology

(From Our Special Correspondent)

The University of Calcutta would soon introduce a postgraduate course in History of Science and Technology. The M. Phil degree would consist of one academic year. A committee has been formed with Dr. Sushil Mukherjee, Vice-Chancellor of Calcutta University as the Chairman. Besides the Pro-Vice-Chancellor, Calcutta University, the other members are: Prof. Chanchal Kumar Mazumdar of Physics Dept; Dr. Sachin Ganguly of Philosophy Department; Dr. B.B. Ganguly of History Dept. and Shri Samenendra Nath Sen, Registrar, Indian Association for the Cultivation of Science. Prof. A.K. Sarma, Head of the Department of Botany, Shri S. K. Basu, Senior Curator of Birla Institute of Science and Technology and Dr. T.K. Ghosh, Medical Practitioner have also been associated with the committee.

The committee has suggested the following courses: Paper I: History of Science in Antiquity in India, in Islamic World in China and Latin Europe in Middle Ages. Paper II: History of Science —Scientific Revolution of the 16th, 17th, 18th and 19th centuries. Paper III and IV: Elective Subjects: History of Astronomy and Mathematics, History of Medicine and Biology, History of Physical Science, Philosophy and Methods of Science, History of Technology, Social Implications of Science. Project Work and Viva Voce. However, actual elective subjects to be offered each year will be determined by the Syndicate on the recommendation from the Board of Postgraduate Studies in History of Science from time to time.

The students will be eligible for this course if they are: M.Sc. or M.Tech in any of the science subjects, M.A. in any subject provided the candidate has passed B.A. examinations with a subject in any branch of science, Equivalents recognised by this university. The selected students will be given a fixed monthly stipend of Rs. 200 approximately.

There is wide scope for research in this field of science. The university has undertaken to introduce this subject at the undergraduate and postgradugte level. But initially the M. Phil course would be preferred so that teachers are trained in different disciplines.

The faculty will consist of a professor, two readers and six lecturers.

Studies on medicinal plants

The National Chemical Laboratory has proposed to undertake studies in medicinal plants found in the famous teak forest of Chandrapur district in Maharashtra. Dr. B D. Tilak, Director of the Laboratory, said in Pune that the scientists and the forest authorities have already collected extensive information on the medicinal plants. The proposed study is part of the NCL's three-year-old Ecosystem Development Plan for Chandrapur in Eastern Maharashtra. Representing a departure from the usual approach of sectoral industrial development the plan emphasises the need to preserve the environment from the harmful effects of industrialisation and to make the local backward and tribal people the focus of developmental efforts.

AIIMS to have a cancer centre

The Institute Rotary Cancer Hospital will soon be built in the campus of the All-India Institute of Medical Sciences exclusively for diagnosis, treatment and research on cancer. The Cancer Foundation and the All-India Institute of Medical Sciences entered into an agreement under which the Foundation would donate Rs 25 lakhs collected by the Rotarians through voluntary effort. A sum of another 25 lakhs would be contributed by the foundation during the next five years. The construction of the first phase of the cancer hospital would be initiated within a month.

The hospital is likely to be fully commissioned by 1979. It is expected to accommodate 300 patients.

At present there are only three major centres in India for the treatment of cancer in Calcutta, Madras and Bombay. No such centre is available in the northern India. The hospital apart from having cobalt and X-ray equipment. would be having space for advanced radio therapy facilities, including a linear accelerator and a cathetron.

UAE gift for Aligarh University

The United Arab Emirates has gifted a sum of Rs. 18 lakhs to Aligarh Muslim University on its founder day as a first instalment for setting up a Petroleum Research Institute. The institute would be named after the ruler of the UAE, The Sheikh Zayed Institute of Petroleum and Technology. The institute, first of its kind in India, will conduct a two-year course in oil prospecting, petro-chemicals, polymer technology and drilling. The university already has (graduate and postgraduate) one in geology, chemistry and mechanical engineering. It will now add chemical engineering. The institute will thus absorb students who have already qualified in their disciplines since oil technology is closely linked with them. The first instalment of the grant is likely to be spent on purchase of equipment, adding to the already available computer facilities and training of staff abroad. The capital expenditure also includes the setting up of a library and an international hostel.

The Union Ministry of Education has already agreed to meet the recurring expenditure of the institute.

Seminar on role of students

The student representatives of the colleges in Hyderabad have decided to conduct a seminar on the role of student unions in changing perspective. The seminar would help to identify new areas where the student unions could play an affective part in contributing to campus harmony, peace and advancement of academic pursuits.

The Students' Information Centre of Osmania University will be sponsoring the seminar in December. The seminar is expected to bring together the student union office bearers, teachers, administrators and students at large on a common platform and afford them to understand each others problem in right perspective and help identify areas of cooperation. The seminar would also attempt to assign a new role for the student unions to play in advancement of their members' interests as well as those of the society. Mr. H.C. Upadhyay is the Honorary Secretary of the Centre and also the Seminar Coordinator.

U.P. plans for students Union

The Government of Uttar Pradesh will soon give a new direction to formulating the policy for student unions on the basis of a social consensus. Mr. Ram Naresh Yadav, Chief Minister, said in Lucknow recently that this consensus was sought to be evolved through an open debate on the subject at a State-level conference. Those invited to perticipate in the conference would represent eminent educationists, vice-chancellors, teachers and students of universities including political parties, social workers and guardians. He said that efforts would be made to work out a unanimously agreed line of action. The pre-emergency status of unions in colleges and universities has already been restored.

Panel to study NCERT document

A 30-member expert commitee has been constituted to review the National Council of Educational Research and Training document on higher secondary education and its vocationalisation. The Union Ministry of Education has set up this committee which will also suggest modifications to the NCERT document. The other terms of reference of the committee are: (1) to study the syllabi and courses of the Central Board of Secondary Education and a few State boards with special reference to a few selected vocations and recommend appropriate syllabi; (2) a plan of action for introduction of vocationalisation of secondary and higher secondary education.

G.N.D. constitutes school of Punjabi studies

The Syndicate of Guru Nanak Dev University has suggested to establish a School of Punjabi Studies. The decision will bring under one umbrella the three departments of punjabi language—the Department of Punjabi Language, Literature and Culture, the Department of Guru Nanak Studies, and the Department of Punjabi.

Mr. Bishan Singh Samundri, Vice-Chancellor of the university said soon after the meeting of the Syndicate that one of the heads of the department will act as the Chairman of the School by rotation. There will be a coordination committee to supervise research and teaching. The other members to be associated with this committee would be: Dr. Harbhajan Singh of the Department of Modern Indian Languages, Delhi University; Dr O.P. Mohan, Principal of Doaba College, Jullundur; Prof. Piar Singh, a former Department Head; and Dr. K.S. Gill, Dean of Academic Affairs. Mr. Pritam Singh of the Guru Nanak Studies Department, Dr. K.S. Thind of the Department of Punjabi Language, Literature and Culture and Dr. Dewan Singh of the Department of Punjabi would be its ex-officio members.

The building of the school would be named as Guru Nanak Bhavan. The school would provide inter-disciplinary approach to various research and teaching programmes now being handled by the three departments in isolation. The school will have three professors, seven readers, sixteen lecturers and ten research assistants. Uptil now the Department of Punjabi also had postgraduate classes. It awarded Ph. D. degrees and had M. Phil courses.

Financial cover provided for development schemes of Patna University

The University Grants Commission and the Bihar State Government have sanctioned a sum of Rs. 30 lakhs to Patna University for its various developmental schemes during 1977-78. The development plan of the university includes construction of two hostels, guest house, college canteen, extension of health centre, girls common room, and data processing centre.

Dr. A.K. Dhan, Vice-Chancellor of the university said that the construction of the two new hostels for students would involve an expenditure of Rs. 10 lakhs. While one hostel would be constructed at Rani Ghat, near Hathwa Hostel, the second hostel is under construction at Saidpur.

The extension of the university's central dispensary would cost Rs. 15 lakhs. A sum of Rs 3 lakhs would be provided to the Department of Physics for its extension.

Dr. Dhan said that a separate department for Linguistics and Humanities would be constructed at an estimated cost of Rs 6 lakhs. The university would also set up a data processing centre in Statistics Department. Postgraduate teaching in the Faculty of Engineering would also be organised with the help of the grant given by the UGC.

Shift colleges for Assam

The Assam College Principals' Council held its 15th annual conference in Gauhati recently. A suggestion was made to the Assam Government to establish full-fledged shift colleges wherever found feasible and desirable and to sanction shift allowances to all employees working in shifts in the present set-up till such shift colleges are set up. The conference further resolved that the 10+2+3 pattern be adopted in the interest of vocationalisation of education.

Shri Hiteswar Saikia, Education Minister of Assam, inaugurated the seminar. He stressed the need for planning the educational structure in tune with the needs and realities of life and instilling in the minds of the students a sense a confidence to stand against the storms and turmoils of life.

Inaugurating the opening conference. Shri Dandeswar Gogoi dwelt at length on the trend of education in recent years and called upon the teachers to guide the new generations with dedication and courage of conviction.

The consensus in the seminar was that status quo should be maintained in respect of the +2 classes as being taught in the higher secondary schools and in the pre-university classes of the colleges. It was also suggested that a common syllabi be prepared and introduced jointly by the Secondary Education Board of Assam and the two universities of the State. Government assistance should be made available to meet the higher secondary schools well-equipped in respect of staff library, laboratory and hostel. The seminar suggested a uniform pattern of courses of studies for degree course for both the State universities.

P.G. courses in Telugu

Osmania University will start postgraduate courses in History and Political Sciences in Telugu medium from the next academic session. Prof. G. Ram Reddy, Vice-Chancellor, said in Hyderabad that the academic council had decided to extend the Telugu medium classes in all other subjects of the faculty of social sciences at the postgraduate level in a phased manner. The council has also approved the starting of correspondence courses and M.D. (Tuberculosis and Chest) from this academic year.

Rajkot seminar on University Finances

At the annual meeting of the Association of Indian Universities to be held in Saurashtra University, Rajkot from January 14-16, 1978 a seminar on University Finances will be held. The seminar will focus discussion on the various aspects of financing of universities specially Public and Private Sources of University Finance, Utilization of Resources, Centre-State Relations regarding University Finances, Experiences of selected universities, and Alternative methods of financing university education.

Many well known economists and educationists are expected to participate. They are: Dr. D.M. Manjundappa, Economic Adviser and Special Secretary to Government Planning Department, Karnataka Government, Banglore; Dr. Amrik Singh, Vice-Chancellor, Punjabi University, Patiala; Dr. K. Mukerji, Head of the Department of Commerce, University of Calcutta; Prof. S.K. Mukerji, Asstt. Director General (Edn.), ICAR, New Delhi; Dr. K.R. Shah, M.S. University of Baroda; Dr. S. Srikantiah, University of Baroda; Dr. A.R. Kamat, Gokhale Institute of Politics & Economics, Poona; Dr. P.R. Panchamukhi, Department of Economics, University of Bombay; Shri Ruddar Datt, Principal, School of Correspondence Courses and Continuing Education, University of Delhi; Dr. Balvir Singh, Delhi School of Economics, University of Delhi; Dr. M.C. Purohit, National Institute of Public Finance & Policy, New Delhi; Dr. G.D. Sharma, Association of Indian Universities, New Delhi.

Education workshop in Hyderabad

The regional workshop for South Asia on Innovative Non-formal Education and Social Welfare Strategies was organised in Hyderabad at the National Institute of Rural Development. The workshop was sponsored by the United Nations, the Social Welfare and Development Centre for Asia and Pacific at Manila, and the National Institute of Public Cooperation and Child Development, New Delhi. The workshop was essentially experienced-based. An analysis of the experiences of selected ongoing innovating programmes in social welfare and non-formal education was carried out and related to the specific needs identified at the level of each country. The innovative methods and materials being developed for non-formal education and social welfare in the countries of South Asia in terms of their relevance to the development of effective strategies for working among the poverty groups were discussed at length. Guidelines for use in training programmes for both the groups of workers were also suggested.

Delhi panel to suggest ways to economise

The Executive Council of Delhi University has formed a commitee consisting of Dr. M S. Randhawa, Dr. Prem Kirpal and Mr. A. R. Kidwai to discuss ways and means by which university expenditure can be controlled and kept within limits. It is learnt that during 1976-77 a sum of Rs 3.78 crores was sanctioned to university as grants and another sum of Rs 1.5 crores would be collected as fees. While the expenditure is expected of the order of 4.83 crores. The expenditure has been going up by 5 per cent every year.

Grants for Calcutta

The University Grants Commission has sanctioned a grant of Rs 19.87 lakhs to Calcutta University for constructing a new complex on Shyamaprasad Mukherjee Road where the Education Department is located. A few departments of the humanities faculty will be housed in the new complex. A special assistance for the Departments of History, Economics, Philosophy and Geology have been received. Ten posts of professor and four of reader have also been created by the U.G.C. in the science and technology faculties.

Conferences, Seminars and Workshops

November-December, 1977

Date	Title	Venue	Sponsoring Body
24 Oct-2 Nov	Manpower planning and development at the Enterprise level	Lucknow	Inst of Applied Manpower Research
31 Oct-4 Nov	Application of Colorimetric methods for rapid chemical analysis and quality control in cement plants	New Delhi	Cement Research Institute of India
1-30 Nov	XXI Hospital Administration Course	New Delhi	Nat Inst of Health Admn & Edn
2-4 Nov	Management of Corporate Insurance	Calcutta	All India Management Association
2-4 Nov	Symposium on Comparative Animal Physiology	Dharwar	Karnatak University
2-6 Nov	11th IASLIC Conference and National Symposium on the planning of National Information Networks	Dharwar	IASLIC & Karnatak University
2-7 Nov	Indus Valley Civilisation: problems and issues	Simla	Indian Inst of Adv Study
4-5 Nov	Seminar on Group technology	Calcutta	National Productivity Council
4-6 Nov	Research Seminar on Respiratory Diseases	Jamnagar	Gujarat Ayurved University
7-12 Nov	Industrial Electronics	Baroda	National Productivity Council
7 Nov-3 Dec	Summer Inst in contemporary trends in Geography	Shillong	N-Eastern Hill University
10-12 Nov	Fourth National Heat and Mass Transfer Conference	Roorkee	Dept of Mechanical & Industrial Engineering, University of Roorkee
10-13 Nov	Ecology and conservation of birds and mammals in India	Bangalore	Indian Institute of Science
12 Nov	Instrumentation and Measurement including industrial electronics	Madras	Institution of Electronics & Telecommunication Engineers
14-17 Nov	Management of Concrete construction	New Delhi	Cement Research Inst of India
14-18 Nov	Determination of Social status in Indian society	Simla	Indian Inst of Adv study
14-19 Nov	International Solar Energy Congress	New Delhi	
16-18 Nov	Police at the Cross-roads	Hyderabad	S.V.P. National Police Academy
21 Nov-3 Dec	Linear programming and operations Research	Dhanbad	Indian School of Mines
21 Nov-10 Dec	Management Information Systems	Poona	Central Inst of Road Transport
22-24 Nov	First All India Symposium on Metabolism and disposition of Xenobiotics	Aurangabad	Marathwada University
22-26 Nov	Management of Growth of tourism in India	Agra	All India Management Association
23-27 Nov	32nd National Conference on tuberculosis and chest diseases	Trivandrum	Tuberculosis Asso of India
25-26 Nov	2nd National Conference on power sources	Bombay	Society for Advancement of Electrochemical Science & Technology
25-29 Nov	Complex flow system: refresher course	Bombay	IIT & Inst of Chemical Engineering
28-29 Nov	Seminar on Maintenance Management and Engineering	Gauhati	National Productivity Council
1-3 Dec	Patents documentation and information services Workshop	Bombay	Documentation Research & Training Centre, I.S.I., Bangalore & Controller General of Patents & Trade Marks, Bombay
1-3 Dec	Symposium of Crystallography and Crystal physics	Hyderabad	Osmania University
5-7 Dec	Finite element techniques in Mining	Dhanbad	Indian School of Mines
5-9 Dec	International Symposium on Monsoon dynamics	New Delhi	I.I.T.
5-15 Dec	41 Session of the International Statistical Institute	New Delhi	Indian Statistical Institute
5-17 Dec	Structural photogeological techniques in mineral exploration	Dhanbad	Indian School of Mines
5-21 Dec	Random Vibration	Bombay	Aeronautics Research and Development Board & I.I.T.
5-27 Dec	Winter School in Chemistry	Bombay	I.I.T.
6-10 Dec	Symposium on structural trends in peninsular India	Tirupati	Sri Venkateswara University
7-9 Dec	Low-cost automation	Bangalore	National Productivity Council
10-12 Dec	Symposium on general topology	Meerut	Dept of Mathematics Meerut University
12-13 Dec	Management information systems	Kanpur	National Productivity Council
12-17 Dec	Open-cast Mining Machinery	Dhanbad	Indian School of Mines
12-17 Dec	Operations research	Madras	National Productivity Council
13-15 Dec	Management of Road Transport	New Delhi	All India Management Association
13-17 Dec	Workers participation in industry	Ahmedabad	National Productivity Council
16-18 Dec	Conference of the Inst of Mathematical Statistics	New Delhi	Inst of Math Statistics & Indian Statistical Institute
16-18 Dec	7th National Conference on Quality Control	New Delhi	Indian Statistical Institute
16-26 Dec	Regional Course in Hospital Administration	Lucknow	National Inst of Health Admn & Education
18-22 Dec	National Symposium on environmental agents and their biological effects	Hyderabad	Dept of Genetics Osmania University
19-21 Dec	Xth Annual Conference of the Electron Microscope Society of India	Bombay	Bhabha Atomic Research Centre
19-24 Dec	Application of computers in Mining	Dhanbad	Indian School of Mines
19-24 Dec	Industrial Electronics	Bombay	National Productivity Council
19-31 Dec	Planning of Mines systems	Dhanbad	Indian School of Mines

20-22 Dec	International Conference on Optimisation in Statistics	Bombay	I.I.T. & Ohio State University
22-24 Dec	1st National Symposium on expansive soils	Kanpur	Inst of Engineers (India) & Harcourt Butler Technological Inst, Kanpur
22 Dec to 21 Jan-78	IInd Course in research methodology for health administrators & educators	New Delhi	National Inst of Health & Family Welfare
26-28 Dec	Seminar on Hindi Poetry after 1960	Hyderabad	Osmania University
26-29 Dec	Annual convention of chemists (including symposium)	Jaipur	Indian Chemical Society
26-30 Dec	Hospital Management	Agra	National Productivity Council
26-30 Dec	Nuclear Physics and Solid State Physics	Pune	Dept of Atomic Energy, Bombay
26-31 Dec	Operation & Maintenance of thermal power stations	Bombay	National Productivity Council
27-29 Dec	All India Symposium on Environmental Biology	Kariavattom	Dept of Zoology, Univ of Kerala
27-30 Dec	Third Indian Chemical Engineering Congress	Chandigarh	Indian Inst of Chemical Engineers
29-31 Dec	Resources engineering and technology—National Seminar	Bombay	I.I.T.
December	Seminar on Philosophy of Language	Kurukshetra	Dept of Sanskrit, Kurukshetra Univ
2nd half of December	Symposium on Physiology of Parasitism	Jabalpur	Univ of Jabalpur

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National Symposium on environmental agents and their biological effects	18—22 Dec.
Symposium on Comparative animal physiology	2 — 4 Nov.
Symposium on physiology of parasitism	2nd half of December
Building & Civil Engineering	
1st National Symposium on expansive soils	22—24 Dec.
Management of Concrete Construction	14—17 Nov.
Chemistry	
Annual convention of chemists (including symposium)	26—29 Dec.
Application of colorimetric methods for rapid chemical analysis and quality control in cement plants	31 Oct—4 Nov.
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Winter School in Chemistry	5 —27 Dec.
Engineering	
Complex flow system: refresher course	25—29 Nov.
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Industrial electronics	19—24 Dec.
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Low-cost automation	7 — 9 Dec.
Random vibration	5 —21 Dec.
Resources engineering and technology—National Seminar	29—31 Dec.
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Seminar on Maintenance Management and Engineering	28—29 Nov.
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Structural photogeological techniques in mineral exploration	5 —17 Dec.
Summer Institute in Contemporary trends in geography	7 Nov.—3 Dec.
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Environment and Rural Development	
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Ecology and conservation of birds and mammals in India	10—13 Nov.
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Symposium on general topology	10—12 Dec.
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CURRENT DOCUMENTATION IN EDUCATION

A list of select articles culled from Periodicals received in AIU Library during October, 1977

EDUCATIONAL PHILOSOPHY

Crick, Bernard. "Education and polity". *Higher Education Review* 9(2); Spring 77: 7—22.

EDUCATIONAL PSYCHOLOGY

Ghosh, S.N. "Effects of coaching and practice on intelligence and aptitude test performance: A survey of studies". *Indian Educational Review* 12(1); Jan 77: 85-102.

EDUCATIONAL SOCIOLOGY

Flynn, Rob. "Home-based residence in higher education". *Higher Education Review* 9(2); Summer 77: 47-57.

Jha, Akhileshwar. "Academic intellectuals and the emergency". *New Quest* (3); Sept 77: 5-12.

Long, Samuel. "Academic disaffection and the university student". *Educational Studies* 3(1); Mar 77: 67-79.

Mehrotra, Rajiv. "Power to disrupt". *Surya India* 1(12); Sept 77: 42-3.

Parker, Clyde A, and others. "Student protest in the United States and India". *Indian Educational Review* 12(2): Apr 77: 1-18.

EDUCATIONAL PLANNING

Tilak, Jandhyala B.G. "Approaches to educational planning and their applications in India". *Indian Economic Journal* 24(3); Jan-Mar 77: 263-94.

Tripathi, S.N.M. "Planning of higher education in India". *University News* 15(18); 16 Sept 77: 488-9.

EDUCATIONAL ADMINISTRATION

Bacon, A.W. "Co-management and the school system: A case study of teacher representations on school governing and managing bodies". *Educational Studies* 3(1): Mar 77: 23-36.

El-Khawas, Elaine H. "Putting the student consumer issue in perspective". *Educational Record* 52(2); Spring 77: 169-79.

Heard, Alexander. "Aims and objectives of a university: Basic principles in university administration". *International Association of Universities Bulletin* 25(1); Feb 77: 9-12.

Hoy, John C. "Consumer interest in higher education". *Educational Record* 58(2); Spring 77: 180-90.

Kauffman, Joseph F. "New college president: Expectations and realities". *Educational Record* 58(2); Spring 77: 146-68.

Lee, Wayne A" and Gilmour, Joseph E. "Procedure for the development of new programmes in post-secondary education", *Journal of Higher Education* (Ohio) 48(3); May-June 77: 304-20.

R.P. Singh. "Education on the concurrent list: A historical analysis". *Education Quarterly* 29(1); Apr 77: 1-4.

Stromgnist, Nelhy P. "Antecedent and concurrent conditions of participation: The case of participatory educational planning". *Educational Studies* 3(1); Mar 77: 37-54.

TEACHING

Armstrong, David G, "Team teaching and academic achievement". *Review of Educational Research* 47(1); Winter 77: 65-86.

Bess, James L. "Motivation to teach". *Journal of Higher Education* 48(3); May-June 77: 253-58.

Morstain, Barry R. and Gaff, Jerry G. "Student views of teaching improvements". *Educational Record* 58(3); Summer 77: 299-308.

NATIONAL COUNCIL OF TEACHER EDUCATION "Group reports". *Journal of Indian Education* 3(1); May 77: 62-71.

EVALUATION

Baker, Frank B. "Advances in item analysis". *Review o Educational Research* 47(1); Winter 77: 151-78.

Gillham, B.A. "Reluctant beneficiaries: The teacher and the public examination system". *British Journal of Educational Studies* 25(1); Feb 77: 50-62.

Hambleton, Ronald K. and Cook, Linda L. "Latent trait models and their use in the analysis of educational test data". *Journal of Educational Measurement* 14(2); Summer 77: 75-96.

Singhal, R.P. "Replacing marks by grades", *Journal of Indian Education* 3(2); July 77: 11-15.

Srivastava, H.S. "Some conceptual variations in examination reform". *Indian Educational Review* 12(1); Jan 77: 1-10.

Venkata Rami Reddy, A. "Whither internal assessment? *Indian Educational Review* 12(1); Jan 77: 11-17.

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Udgaonkar, B.M. "Science and technology for rural development: Role of institutions of higher learning". *New Frontiers in Education* 7(3); July-Sept 77: 21-44.

EDUCATIONAL TECHNOLOGY

Tawney, David A. "New light in old corners: Reflections prompted by observing some camputer assisted learning developments". *Studies in Higher Education* 2(1); Mar 77: 69-77.

PROFESSIONAL EDUCATION

Karkal, Shivanand. "What ails medical education". *Youth Times* 6(12); 2-15 Sept 77: 38-9.

UGC REGIONAL Workshop in Commerce. *University News* 15(18); 16 Sept 77: 499-503.

ADULT EDUCATION

Burkett, J.E. "Higher education's growing edge". *Educational Record* 58(3): Summer 77: 259-69.

Dwyer, Richard. "Workers' education, labour education and labour studies: An historical delneation". *Review of Educational Research* 47(1); Winter 77: 179-207.

ECONOMICS OF EDUCATION

Lazear, Edward. "Education: Consumption or Production". *Journal of Political Economy* 85(3); June 77: 569-97.

Lazear, Edward. "Schooling as a wage depressant". *Journal of Human Resources* 12(2); Spring 77: 164-76.

Padmanabhan, C.B. "Financial aspects of Indian educational administration with special reference to university education". *Education Quarterly* 29(1); Apr 77: 5-10.

COMPARATIVE EDUCATION AND COUNTRY STUDIES

✓Amrik Singh. "Educational Policy: Context, content and processes". *India International Centre Quarterly* 4(2); Apr 77: 165-71.

COLLEGE TEACHERS in Maharashtra: Barking up the wrong tree. *Economic and Political Weekly* 12(35); 27 Aug 77: 1531-2.

John, V.V. "Renaming the UGC: A prelude to adventure. *University News* 15(18); 16 Sept 77: 487, 489.

U.G.C. REVIEW Committee reports to the Ministry of Education. *University News* 15(17); 1 Sept 77: 459, 468-71.

THESES OF THE MONTH

A list of Doctoral Theses Accepted by Indian Universities

SOCIAL SCIENCES

Psychology

1. Embar, Padma. Psychometric and experimental investigation of social, emotional and learning problems of mentally retarded children. Bangalore University.

2. Pandharipande, Shrikrishna. Study of socio-cultural correlates of achievement motivation. Nagpur University.

3. Prakasam, R. Human factors in industrial productivity. University of Kerala.

4. Raizada, B.S. A study of personality and environmental correlates of n-achievement. Gujarat University.

Sociology

1. Gupta, Dipankar. The Shiva Sena Movement 1966-1974: A sociological analysis. Jawaharlal Nehru University.

2. Jayaram, N. Education and social structure. Bangalore University.

3. Sundaram, D. Citizen, bureaucracy and development administration: A sociological study of development administration at the district level. University of Madras.

Anthropology

1. Sudarsen, Vajjhala. Environment and archaeology of Nellore District. Andhra University.

Political Science

1. Bharathan, M. Jayaprakash Narayan: A study in Sarvodaya philosophy. University of Madras.

2. Kaul, Indra. Indo-Pakistani conflict and Soviet policy, 1947-1966. Jawaharlal Nehru University.

3. Khan, Zahoor Mohammad. Inter-state relations in East Africa, 1961-1971. Jawaharlal Nehru University.

4. Mantri, Murlidhar. Pracheen Hindu rajya mein samprabhuta ka siddhantik evam vyavharik swarup. Vikram University.

5. Raychaudhuri, Bipul Kanti. Government companies in India. University of Calcutta.

6. Saksena, Jai Dayal. Mahabharat kee rajya vyavastha. Kanpur University.

Economics

1. Das, Promod Kishore. Aspects of tenurial conditions and agrarian transformation in selected villages of Orissa. Jawaharlal Nehru University.

2. Pandey, Romesh. Industrialisation of Himachal Pradesh: Problems and prospects. Himachal Pradesh University.

3. Parthasarathi, P.B. The cost structure of sugarcane: An empirical study in regional variations. Osmania University.

4. Ramachandran, H. Transportation and urban attributes in the Coimbatore Region: A case study of an interacting system. Jawaharlal Nehru University.

5. Sharma, Yatendra Nath. Dr. Ram Manohar Lohia ka arth darshan tatha Bharatiya arthvyavastha ke sandarbh mein unka mulyankan. Kanpur University.

6. Sunil Chand. Monetary policy and inflation in India with special reference to money supply. Himachal Pradesh University.

Education

1. Abraham, A.S. Occupational—educational structure of the labour force in India: A study in substitution possibilites. Jawaharlal Nehru University.

2. Ghosh, Reba. A survey of the present system of teacher education in the U.S.A., the U.K. (England and Wales) and India: A study in comparison. University of Calcutta.

3. Soundararaja Rao, T.R. A study of the classroom climate in secondary schools. University of Madras.

4. Tribhuvan Rajdeo Singh. Adoption and discontinuation of innovations in the preparation of secondary school teachers in India. M.S. University of Baroda.

Commerce

1. Agarwal, Mata Prasad. Application of standard costing and budgetary control technique in Indian textile industry. Kanpur University.

2. Rao, P.V. Public sector banks' loans to priority sector in India since 1969. Kanpur University.

3. Sarma, Anil Kumar. Managament problems of the small industrial enterprises in Assam. Gauhati University.

4. Sharma, Narain Das. Institutional finance and Indian agriculture since 1956. Kanpur University.

HUMANITIES

Philosophy

1. Chandrakaew, Phramaha Chinda. The concept of Nibbana in early Buddhism. University of Madras.

2. Harinarayan Singh. The concept of being in the exiseantalism with special reference to Martin Heidegger. Osmania University.

3. Kothari, M.R. Ego and personality. Saurashtra University.

4. Lakshminarayan, S. The concept of man in J. Krishnamurti and Jean-Paul Sartre: A comparative evaluation. Osmania University.

5. Mukhopadhyay, Tapti. A constructive study of Advaita conception of mind. Utkal University.

6. Paul, Regi. Art as a medium of education in Tagore. Osmania University.

Literature

English

1. Sharma, Lakshmi Shankar. S.T. Coleridge's contribution to English criticism. Vikram University.

German

1. Chosh, Pranabendranath. Johanna Gottfried Herder's image of India. University of Calcutta.

Sanskrit

1. Chawla, Jyotsna. The development of chief rigvedic deities into iconic forms in mahapuranas. Vikram University.

2. Jain, Sushila. Malwa mein Jain sahitya ka nirman aur sahityakaron ka yogdan. Vikram University.

Hindi

1. Brahmachari, K. Kamayani mein vakya samrachna. Sri Venkateswara University.

2. Chulkimath, Shareshchandra Chandrashekharswami. Mohan Rakesh: Personality and his works. Karnatak University.

3. Dixit, Rajani Krishna Rao. Pandit Ilachandra Joshi aur unka sahitya. Karnatak University.

4. Dubey, Jivant Kumari. Hindi natakon mein rashtriya chetna. University of Saugar.

5. Dubey, Purushottam. Mohan Rakesh: Vyakti aur sahitya, Vikram University.

6. Jalaj, Jai Kumar. Natyashastriya pripekshya mein Sanskrit natakon ka adhyayan aur Hindi prayog ke kshetr mein uske phalitarth. Vikram University.

7. Johri, Veenapani. Chhayavadyugeen gitikavya. Vikram University

8. Kulshrestha, Chandra Mauli. T.S. Eliot and modern Hindi poetry: A study of four major poets. Gauhati University.

9. Lamani, Heggappa Deshappa. Karnatak ke Lamani lok geeton ka sahityik adhyayan. Karnatak Universiry.

10. Pandey, Sampurnanand. Prem ras: Ras shastriya parampara mein abhinav chintan. Kanpur University.

11. Rawat, Badamsingh Khoobiram. Satthottari Hindi kavita vastu shilp. M.S. University of Baroda.

12. Shah, Ashokkumar Kantilal. Upanyaskar Guru Dutt: Ek anusheelan. M.S. University of Baroda.

13. Shrivastva, Shyam Biharilal. Bundelkhand ke Raso kavya. Jiwaji University.

14. Sinha, Bharti. Swatantryottar Hindi kahani sahitya mein Chitrit samaj, 1947 to 1972. Bihar University.

15. Varma, Mangli Prasad. Premchandottar samajik upanyason mein vyaktik aur samajik visangatiyan. Kanpur University.

Urdu

1. Baig, Mirza Akbar Ali. Mirza Ali Lutf: Life and works. Osmania University.
2. Mohammadi Begum. Ahsan-Uddin Khan: Bayan. Osmania University.

Bengali

1. Bhaumik, Suhrid Kumar. Bengla chhander vivartane samskritaoc-prakrita prabhav. University of Calcutta.
2. Ghosh, Ranu. Mangal kavye samskrita puraner prbhab. University of Calcutta.
3. Gupta, Kantibhushan. Unis sataker seshardhabarti Bangla gadyer rupa-riti. University of Calcutta.
4. Kundu, Pranay Kumar. Meghnadbodh kabya: Satabarsher samikshya. University of Calcutta.

Oriya

1. Jena, Bairagi Charan. Oriya kavyare soundarya chetna: From the age of Upendra Bhanja to the age of Radhanath Ray. Utkal University.
2. Sahoo, Premananda. A study on Oriya proverbs. Berhampur University.

Marathi

1. Pathak, Shrikrishna. Avarchin Marathi kaviteteel prakshoby 1885-1947. Nagpur University.

Gujarati

1. Tanna, H.A. Poetry of Narsinh Mehta: A critical study. Saurashtra University.

Persian

1. Rafeeq, Fatima. Life and work of Musavi Khan Jurat. Osmania University.

Tamil

1. Guruswami, M.R. Pothilinga. Suggestion in Tamil literature. University of Madras.
2. Ramar, S. A study of the narrative poems of Bharathidasan. University of Madras.

Kannada

1. Hiremath, Siddayya Basayya. Basavannanavara vachana galalli lokanubhava mattu shivanubhava. Karnatak University.

Telugu

1. Lalithakumari, Dwadasi. Adhunikandhra kavitatatvamu. Andhra University.

Music

1. Dhurga, S.A. Kumari. Opera in South India. University of Madras,

Geography

1. Soni, Poonamchand. Malwa ka jansankhya bhugol Vikram University.

History

1. Chakraborti, Manika. Malwa in the post-Maurya period: A critical study with special emphasis on numismatic evidences. University of Burdwan.
2. Kolarkar, Sharadchandra Gopalrao. Janoji Bhonsle and his times, 1755-1772. Nagpur University.
3. Oberai, K. Social conditions in North India on the eve of Muslim invasion 700 A.D. to 1200 A.D. Karnatak University.
4. Prem Prakash. Development of education in British India, 1921-1947. University of Delhi.
5. Subbiah, G. Pandya architecture - early phase. University of Calcutta.
6. Swamy, A. Archaeology of the Chingleput District. University of Madras.

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Reader: (Arts, Science and Library Science) : (a) A Doctor's degree or published work of an equivalent high standard, (b) Consistently good academic record with First or High Second Class (B+) Master's degree in a relevant subject or any equivalent Degree of a foreign University, (c) Evidence of continuous research and (d) Experience of 5 years' Post-graduate teaching or 8 years Honours teaching,

In addition to the above the following will be essential qualifications in the case of Reader in English teaching. Diploma in teaching of English from the Central Institute of English and Foreign Languages, Hyderabad or equivalent degree or diploma recognised by this University.

Lecturer: (Arts, Science and Library Science) : (a) A doctor's degree or published work of an equally high standard and (b) Consistently good academic record with first or high second class (B+) Master's degree in a relevant subject or an equivalent degree of a foreign University.

Provided that if the Selection Committee is of the view that research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of the qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent published work is not available or is not considered suitable a person possessing a consistently good academic record, (due weightage being given to M. Phil or equivalent degree or research quality) may be appointed on the condition that he will have to obtain a Doctor's degree or give evidence of puplished work of equivalent high standard within five years of his appointment, failing which he will not be able to earn future increments until he fulfils these requirements.

Lecturer in Journalism: Candidate must have good academic record with at least high second class Master's degree in a subject with degree or Diploma in Journalism. Preference will be given to those who have practical experience in a Daily Newspaper in the Editorial and/or production side for not less than 5 years.

Applications in plain paper in quadruplicate giving full bio-data including (1) Name in full (in block letters), (2) Father's name, (3) Date of birth by the Christian era, (4) (a) Permanent residence and address (in full), 4(b) Present address (in full), (5) Whether the candidate belongs to SC or ST, if so, certificates to be attached, (6) Present occupation if any and name of employer, (7) Present salary drawn (if any), (8) Detailed academic career with marksheets and subject studies (including Honours) in Degree and post-graduate courses from Matriculation/Higher Secondary/High School Leaving Certificate Examination onwards and copies/reprints of research contributions, (9) Name and address of two referees not related to the candidate together with an application fee of Rs 10 (ten) (Rs 7.50 in case of S.C./S.T. candidates) by CROSSED INDIAN POSTAL ORDER drawn in favour of the Gauhati University payable at the Gauhati-781014 post office should be sent in an inner sealed cover superscribed application for the post of (Name of post applied for) Advt. No. 7 of 1977 enclosed in an outer cover addressed to Sri K.C. Bhattacharyya, M.A. (Cal), Registrar, Gauhati University, Gauhati-781014 to reach him not later than **25th November, 1977**.

The number of this advertisement and name of the post applied for must be referred to in application. Persons in employment should apply through proper channel or with a no objection certificate from the present employer.

The University has accepted the principle of reservation of posts for scheduled caste and scheduled tribe candidate according to the norms of the State Govt. Candidates should submit necessary certificate from the Deputy Commissioner/District Magistrate if they belong to scheduled caste or scheduled tribe.

Candidate will be required to appear at an interview if and when called for.

Canvassing directly or indirectly will be a disqualification.

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GAUHATI UNIVERSITY
GAUHATI-781014
Advertisement No. 8 of 1977

Applications are invited for the following posts:

1. Professor of Business Administration: Two posts (5th Plan)
2. Reader in Business Administration: Three posts (5th Plan)
3. Lecturer in Business Administration: Five posts (5th Plan)

Scales of pay

Professor: Rs. 1500-60-1800-100-2000-125/2-2500/-
Reader: Rs. 1200-50-1300-60-1900/-
Lecturer Rs. 700-40-1100-50-1600/-.

All posts carry usual allowances admissible under University rules in force from time to time.

ESSENTIAL QUALIFICATION

Professor : (a) A recognised scholar in the subject with Doctor's degree or equivalent published work, (b) Continuous research work of merit as evidenced by published papers in standard journals or published work of merit, (c) Experience of 10 years of post-graduate teaching or 15 (fifteen) years Honours teaching or 15 (fifteen) professional experience, (d) experience in guiding and promoting research.

Note: In case of candidate of exceptional abilities with outstanding research contributions the requirement of teaching experience may be suitably relaxed.

Reader: (a) Consistently good academic record with first or high Second Class (B+) Master's degree in a relevant subject or any equivalent degree of a foreign University, (b) A Doctor's degree or published work of an equivalent high standard or other professional qualification, (c) Evidence of continuous research and, (d) Experience of 5 (five) years post-graduate teaching or 8 years Honours teaching or 10 years professional experience.

Lecturer: (a) A Doctor's degree or published work of an equally high standard and (b) Consistently good academic record with first or high second classs (B+) Master's degree in a relevant subject or an equivalent degree of a foreign University.

Provided that if the Selection Committee is of the view that the research work of a candidete as evident either from his thesis or from published work is of very high standard, it may relax any of the qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent published work is not available or is not considered suitable, a person possessing a consistently good academic record (due weightage being given to M. Phil or equivalent degree or research quality) may be appointed on the condition that he will have to obtain a Doctor's degree or give evidence of published work of high standard within five years of his appointment, failing which he will not be able to earn future increment until he fulfils these requirements.

Applications in plain paper in quadruplicate giving full bio-data including (1) Name in full (in block letters), (2) Father's name, (3) Date of birth by the Christian era, (4) (a) Permanent residence and address (in full), (4)(b) Present address (in full), (5) Whether the candidate belongs to S.C. or S.T. if so certificates to be attached., (6) Present occupation if any and name of employer, (7) Present salary drawn (if any), (8) Detailed academic career with marksheets and subject studies (including Honours) in degree and postgraduate courses from Matriculation/Higher Secondry/High School leaving certificate examination onwards and copies/reprints of research contributions, (9) Name and address of two referees not related to the candidate together with an application fee of Rs 10 (Rupees ten) and (Rs 7.50 in the case of scheduled caste/scheduled tribe candidates) by CROSSED INDIAN POSTAL ORDER drawn in favour of Gauhati University payable at the Gauhati-781014 post office should be sent in an inner sealed cover superscribed application for the post of (name of post applied for) Advt.

No. 8 of 1977 enclosed in an outer cover addressed to Sri K.C. Bhattacharyya, M.A. (Cal), Registrar, Gauhati University, Gauhati-781014 to reach him on or before 30th November, 1977.

The number of this advertisement and name of the post applied for must be referred to in application. Persons in employment should apply through proper channel or with a no objection certificate from the present employer.

The University has accepted the principle of reservation of posts for scheduled caste and scheduled tribe candidate according to the norms of the State Govt. Candidates should submit necessary certificate from the Deputy Commissioner/District Magistrate if they belong to scheduled caste/ scheduled tribe.

Candidate will be required to appear at an interview if and when called for.

Canvassing directly or indirectly will be a disqualification.

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JAWAHARLAL NEHRU UNIVERSITY

Advt. No. Aca. III/9/77

A. School of International Studies

(I) Centre of West Asian & African Studies

1. Associate Professor/Fellow in Political Science or Sociology

Essential Qualifications

(a) Consistently good academic record with at least a high second class Master's degree in Political Science or Sociology or an equivalent qualification from an Indian/Foreign University; (b) A doctor's degree or published work of an equally high standard; and (c) About five years' experience of teaching and/or research.

Desirable Qualifications

Considerable research work on regional groupings or problems of economic and social change in Africa. Working knowledge of the Swahili language.

2. Research Assistant

First or high second class Master's degree in History, Political Science, International Relations or Economics.

B. School of Languages

(II) Centre of Spanish Studies

3. Assistant Professor/Associate Fellow in Spanish Studies

Essential Qualifications

(a) Consistently good academic record with at least a high second class Master's degree in Spanish or an equivalent qualification from an Indian/ Foreign University; (b) A doctor's degree or published work of an equally high standard; and (c) Some teaching and/or research experience.

Notes

(a) and (b) are for Assistant Professor; and

(a) and (c) are for Associate Fellow.

Desirable

Specialisation in the teaching of Spanish as a foreign language by modern audio-visual methods and/or Modern Spanish and Latin American Literature and/or History of Culture of Spain and Latin America.

C. School of Social Sciences

(i) Centre for the Study of Regional Development

4. Documentation Officer

Essential Qualifications

(a) Consistently good academic record with at least a high second class Master's degree in Geography or Economics or its equivalent qualification from an Indian/Foreign University; (b) Adequate experience in conducting field surveys and documentation; and (c) Acquaintance with modern computer techniques of data processing and storage.

(ii) Centre for Studies in Science Policy

5. Assistant Professor/Associate Fellow

Essential Qualifications

(a) Consistently good academic record with at least a high second class M.A./M.Sc./M.Tech. in Social Sciences/ Natural Sciences/Engineering or Technology; (b) A doctor's degree or published work of an equally high standard; and (c) Some teaching and/or research experience.

Note

(a) and (b) are for Assistant Professor; and

(a) and (c) are for Associate Fellow.

Desirable Qualifications

Three years' research of teaching experience in multidisciplinary areas with published work and proven capacity to organise and teach courses relevant to science policy studies.

(iii) Centre of Social Medicine and Community Health

6. Associate Professor/Fellow in Community Health

(a) Consistently good academic record with at least a high second class degree in Medicine or an equivalent qualification from an Indian/Foreign University; (b) A doctor's degree on any aspect of community health or published work of an equally high standard; and (c) About five years' experience in developing interdisciplinary approach to education, training, research and consultation in the field of community health in India.

7. Associate Professor/Fellow in Social Sciences

Essential Qualifications

(a) Consistently good academic record with at least a high second class Master's degree in Sociology, Psychology or Cultural Anthropology; (b) A doctor's degree in any one of the above or related subjects or published work of an equally high standard; and (c) About five years' experience in developing an interdisciplinary approach to education, training, research and consultation in any one of the fields of social sciences mentioned above.

8. Research Investigator (for 2 years in the first instance)

Essential Qualifications

A good Master's degree in Sociology, Psychology or Cultural Anthropology with experience in collecting social research data.

(iv) Centre for Political Studies

9. Associate Professor/Fellow or Assistant Professor/Associate Fellow in Research Methodology and Political Analysis

Essential Qualifications

(a) Consistently good academic record with at least a high second class Master's degree in Political Science or an equivalent qualification from an Indian/Foreign University; (b) A doctor's degree or published work of an equally high standard; (c) About 5 years' experience of teaching and/or research; (d) Some teaching and/or research experience.

Note

(a) to (c) are for Associate Professor/ Fellow;

(a) and (b) are for Assistant Professor; and

(a) and (d) are for Associate Fellow.

Desirable Qualifications

Should have applied prevalent techniques of Political Science Research and Political Analysis.

D. School of Life Sciences

10. Technician Grade III

Essential Qualifications

(a) At least B.Sc. or equivalent degree and (b) Working experience in Biochemical Techniques; Radiochemical or Biophysical Techniques; Tissue Culture.

11. Senior Laboratory Assistant

Essential Qualifications

B.Sc. with two years' experience in Science Laboratories or M.Sc. in Botany/Zoology/Applied Sciences.

E. School of Computer and System Sciences

12. Junior Technical Assistant

Essential Qualifications

A good B.Sc. degree with Physics as one of the subjects or LEE/LME (Diploma in Electrical/Mechanical Engineering) and basic knowledge in electronics. Candidates with experience in electrical soldering and handling electronic circuits preferred.

Age for posts Nos. 8 and 10 to 12 :
Below 35 years

and for post No. 2 :
Below 40 years

Relaxable by 5 years in the case of SC/ ST candidates.

Scales of Pay

Associate Professor/Fellow
Rs. 1200-50-1300-60-1900.

Assistant Professor/Associate Fellow
Rs. 700-40-1100-50-1600.

Documentation Officer
Rs. 700-40-1100-50-1300.

Research Assistant
Rs. 550-20-650-25-750.

Research Investigator/Technician Grade III
Rs. 425-15-500-EB-560-20-700.

Senior Laboratory Assistant
Rs. 380-12-500-EB-15-560.

Relaxation in any of the qualification may be made (a) in favour of persons of eminence or of high academic professional distinction, and (b) in exceptional cases where adequately qualified persons are not available but are otherwise found suitable for the respective positions. It will also be open to the university to consider the names of suitable candidates who may not have applied.

The candidates selected for faculty positions will be expected to participate in the teaching and research programmes in the concerned disciplines in other schools of the university as well as in the programmes offered in their own Centres of Studies.

Normally appointment of Fellows and Associate Fellows is made on contract basis for a period of ranging from one to three years.

Benefits of C.P. Fund-cum-Gratuity/ G.P. Fund-cum-Pension-cum-Gratuity are available as per university rules.

Persons already in employment should route their application through proper channel. Due consideration will be given to candidates belonging to SC/ ST at the level of Assistant Professor/ Associate Fellow and below.

Second class (mail) rail fare (both ways) will be paid to candidates invited to appear for interview from outstation by the shortest route subject to the production of rail receipts.

Applications, on the prescribed form, obtainable free of cost from the university by sending a self-addressed and envelope of 23cm x 10cm size to the Assistant Registrar (R & C), Jawaharlal Nehru University, New Mehrauli Road, New Delhi-110057, should reach him latest by **November 15, 1977**.

Candidates from abroad, applying for faculty positions, may apply on plain paper, (but their applications should reach the university by the last date) furnishing all the relevant information such as their names; date and place of birth; marital status; nationality; state of domicile; postal and permanent addresses; father's name and address; academic and professional attainments; full details of (a) publications, and (b) research projects undertaken; language(s) known; details of visits to foreign countries; and the names and addresses of at least two persons well acquainted with the candidates professional work who should be requested by the candidate to forward to the Assistant Registrar (R & C) confidential report concerning the candidate.

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PUNJABI UNIVERSITY
PATIALA

Advt No. 154/EST/S.P.S/ U.B/77

Applications are invited for the following posts:

1. **Professor in the Department of Speech Drama and Music** (Grade: Rs 1500-2500)

Qualifications

a) A Doctor's degree or published work of equally high standard in Dramatic literature or theatre art; and

b) Consistently good academic record with 1st or high 2nd class (b+) Master's degree in English or Punjabi or an equivalent degree of a foreign University. Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of a very high standard, it may relax any of the qualifications prescribed in (b) above.

Experience

i) 10 years' teaching experience to post-graduate classes & of guiding research.

ii) 15 years' practical experience of play-production and playwriting.

Preference will be given to a playwright and drama producer of repute.

Desirable

Knowledge of (i) different traditions of Indian and Western theatre (ii) Modern theatre techniques; (iii) Punjabi drama and theatre: and (iv) Punjabi language and Literature.

2. **Readers (Two) (One each in Business Management and Law)** (Grade: Rs 1200-50-1300-60-1900)
3. **Associate Directors** (Rs 1200-50-1300-60-1900) (One each in English, History and Pol. Sc.)
4. **Assistant Directors** (Rs 700-40-1100-50-1600) (One each in English, History and Pol. Sc.)
5. **Lecturers (Six)** (Three in Zoology, Two in Pol. Sc. and one in English). (Grade: Rs 700-40-1100-50-1600)

Qualifications

a) A Doctor's degree or published work of an equally high standard in the relevant subject; and Commerce in the case of Reader in Business Management.

b) Consistently good academic record with 1st or high second class (b+) Master's degree in the relevant subject or an equivalent degree of a foreign University.

(c) Qualifications prescribed in (b) above are relaxable in case the research work of the candidate as evident either from his thesis or from his published work is of a very high standard for the posts at Sr. No. 4 & 5. If a candidate possessing a doctor's degree or equivalent published work is not available or is not considered suitable, a person possessing consistently good academic record (due weightage being given to M.Phil or equivalent degree or research work of quality) may be appointed on the condition that he obtains a Doctor's degree or gives evidence of published work of equivalent high standard within five years of his appointment failing which he will not be able to earn future increments until he fulfils these requirements.

(d) At least 5 years Teaching/Research Experience for the post of Reader in Law and for the post of Reader in Business Management. Seven years' experience of teaching / research / management work in financial management or allied disciplines.

Additional Qualifications

(i) Reader in Business Management

A candidate who is also either a Chartered Accountant or Cost & Works Accountant from an approved Institution with high percentage of marks in Financial Accounting, Management Accounting & Cost Accounting will be preferred.

(ii) Associate Director & Assistant Director in English

Specialization in:

(i) 20th Century English Literature
(ii) American Literature
(iii) Criticism

(iii) Associate Director in History

(i) Specialization in Modern Indian History with teaching experience in non-Indian History.

(iv) Assistant Director in History

Specialization in medieval Indian History with teaching experience in non-Indian history.

(v) Associate Director & Assistant Director in Pol. Sc.

Specialization in the field of International Politics/Public Administration.

(vi) Lecturer in Zoology

Specialization in: Cytogenetics/ Entomology/Parasitology/Molecular or Cell Biology.

6. **Lecturer in Dance** (Grade: Rs. 700-40-1100-50-1600)

Qualifications

At least 2nd class Master's degree in Dance from any recognised University or any other recognised Institution in India or any equivalent qualification from a foreign University with 3 years' teaching experience in a University or any recognised Institution.

7. **J.B.T. Teacher** (Grade: Rs. 150-7-234/8-250/10-300)

Qualifications

(i) Matriculation with J.B.T.

(ii) At least 2 years teaching experience in a recognised institution.

(iii) Must have passed Hindi and Punjabi of at least Matric standard. Candidates with II Division in B.A. and B.Ed. with Higher qualification in English will be given preference.

8. **Clerk-cum-Typists** (Grade: Rs. 120-5-150/10-250)

(25% posts are reserved for members of Scheduled Castes/Tribes and 5% reserved for Backward Classes).

Candidates should be Matric/Higher Secondary first division or B.A./B.Sc. Those passing Matric/Higher Secondary in 2nd division should have 4 year's clerical experience in a University/ College or Government office or public undertaking/autonomous organisation. The condition of experience would be relaxable in the case of persons with a minimum typing speed of 40 w.p.m.

both in English and Punjabi. Knowledge of typing Engligh/Punjabi at a speed of 30 w.p.m. is essential in all cases. The candidates must have passed Punjabi as one of the subjects in Matric or in a higher course.

General for all

Higher start within the grade admissible depending upon the ability and experience of the candidate.

House rent and Dearness allowance, Provident Fund and Medical facilities according to University rules.

Applications complete in all respects on the prescribed form accompanied by a crossed postal order worth Rs. 5/- (Rs. 2/- for candidates belonging to Scheduled Castes/Tribes and Backward classes) drawn in favour of the Registrar, Punjabi University, Patiala, should reach the University by **8.11.77.** The forms can be had from the Superintendent (Establishment) by sending a self-addressed envelope of the size of 23 x 10 cms stamped with 25 paise postage.

Persons already in service should apply through proper channel. Government servants who are not in a position to submit their applications through proper channel before the due date should submit an advance copy before the due date and regular applications through proper channel by **11.11.77.**

P.K. Kapoor
REGISTRAR

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UNIVERSITY OF RAJASTHAN
JAIPUR

Advertisement No. 4/77

With reference to the various posts advertised by the University of Rajasthan, Jaipur in April, 1977 vide advertisement No. 1/1977 for which applications were invited upto 31st May, 1977, it is hereby notified that further applications if any, on the prescribed form, available from the Registrar's office on pre-payment of Rs. 4.00 (Rs. 3.00 extra if required by post) may be submitted for the following posts so as to reach the undersigned by **15th November, 1977**.

A. **Professors**: Chemistry (Inorganic)-1, Mathematics-1, Zoology-1, Economics-1, English-1, Geography-1, Hindi-1, History and Indian Culture-1, Political Science-1, Sanskrit-1, Sociology-1, and Law-2.

B. **Readers**: Botany-3, Chemistry-5, Geology-1, Zoology-1, Adult Education-1, Drawing and Painting-1, English-3, Economics-3, Geography-1, History and Indian Culture-5, Music-1, Philosophy-2, Political Science-6, Public Administration-2, Sanskrit-2, Sociology-1, Urdu-1, Law-2, Economics Administration and Financial Management-1, Accountancy and Bus. Statistics-3, Business Admn-3, Continuing Education-1, and Human Relations and Management Skills-1.

C. **Electron Microscopist** : 1.

D. **Lecturers**: Botany-15, Geology-2, Mathematics-4, Zoology-7, Economics-7, Geography-6, History and Indian Culture-9, History of Indian Civilization and Culture-1, Home Science-1, French-1, Russian-1, Lib. Sc.-1, Pol. Sc.-9, Public Administration-6, Sanskrit-3, Sociology-6, Urdu-4, Law-13, Accountancy and Bus. Statistics-10, Business Admn-1, Economic Admn. & Fin. Management-2, Hindi-6, English-1, Statistics-2, Continuing Education-1, Human Relations & Management Skills-1, Home Sc. (Nutrition & (Dietetics)-2, Journalism-1, and Indian Languages (Tamil)-1.

E. **X-Ray Analyst** (Geology)-1, **Micro Analyst** (Chemistry)-1.

F. **Jain Studies**: Professor-1, Lecturer-1.

G. **South Asia Studies Centre**: Professor 1, Reader-1, Lecturers-3.

H. **R.A. Podar Institute of Management**: Professor-1, Reader-1, Lecturer-1, Case Analyst-1.

Persons who had already applied in response to the aforesaid advertisement need not apply again. They may, however, send on plain paper details of additional qualifications, if any, since acquired and/or additional work done by them. Details of qualifications etc. may be obtained alongwith the prescribed application form or separately as the candidate may desire.

The University reserves the right to increase or decrease the number of posts. It is also open for the University to consider any one of the post of Professor, who may not have applied for it.

L.P. Vaish
REGISTRAR

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ALIGARH MUSLIM UNIVERSITY

Advertisement No. 24/77-78

Applications, on the prescribed form, are invited for the following posts:

1. **Professor of Persian in the Scale of Rs. 1500-60-1800-100-2000-125/2-2500. plus allowances.**

Qualifications

(a) A first or High Second class Master's Degree of an Indian University or an equivalent foreign qualification. (b) A research degree of a Doctorate standard or published work of a high standard and (c) at least ten years experience of teaching postgraduate classes and guiding research.

2. **Lecturer in Persian (Temporary but likely to become permanent) Scale Rs 700-40-1100-50-1600 plus allowances.**

Qualifications

(a) A Doctor's degree or research work of an equally high standard; and

(b) Consistently good academic record with 1st or high 2nd class (B in the seven point scale) Master's degree in a relevent subject or an equivaient degree of a foreign University.

Having regard to the need for developing interdisciplinary programmes, the degrees in (a) and (b) above may be in a relevant subjects.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of the qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable, a person possessing a consistently good academic record (weightage being given to M. Phil. or equivalent degree or research work of quality) may be appointed **provided he has done research work for atleast two years or has practical experience in a research laboratory/organisation** on the condition that he will have to obtain a Doctor's degree or give evidence of research work of equivalent high standard within five years of his appointment, failing which he will not be able to earn future increments until he fulfils these requirements.

Prescribed application forms and instructions may be had from the Deputy Registrar (Executive) either personally or by sending a self-addressed envelope of 23x10 cm. Last date for receipt of applications is **20th November, 1977.** Incomplete applications and those received late may not be considered.

Higher initial start may be given to candidates possessing exceptional qualifications and experience. Candidates interviewed may be paid contribution towards their T.A. equal to one single second class railway fare only.

Jamalur Rahman
REGISTRAR

Personal

1. Dr. P. K. Basu, Professor in the Department of Commerce, Delhi University has been appointed Vice-Chancellor of the North Bengal University.
2. Prof. Raman Poddar of the Department of Nuclear Physics has been appointed Pro-Vice-Chancellor (Academic) of the Calcutta University.
3. Mr. Mohinder Singh Randhawa, Principal, Layalpur Khalsa College, Jullundur has been appointed Registrar of the Guru Nanak Dev University.
4. Prof. Dalip Ghosh has been appointed Registrar of the Rabindra Bharati University, Calcutta.
5. Mr. Anjni Kumar has taken over as Registrar of the Jawaharlal Nehru University, New Delhi with effect from October 27, 1977.

UNIVERSITY OF CALICUT

Ad.AI(3)/4250/77

NOTIFICATION

Applications are invited from qualified candidates for appointment to the undermentioned posts in the University.

Name of Department	Name of Post	No. of post	Scale of pay	Age
Department of Life Sciences	Reader in Biochemistry	1	Rs. 850-1450	Between 30 and 40 years
	Reader in Microbiology	1	-do-	-do.
	Reader in Physiology (Animal Physiology)	1	-do-	-do-
Department of Journalism	Reader	1	-do-	-do-
	Lecturer	1	Rs. 600-1250	Not above 35 years.

(Age and Qualifications relaxable in suitable cases)

Application forms and other details can be had from the Deputy Registrar (Administration), University of Calicut, Calicut University (P.O.) on payment of Rs. 5/- by way of Indian Postal order drawn in favour of the Finance Officer, University of Calicut and payable at Calicut University (P.O.) till **21-11-1977.**

The last date for receipt of completed application is **30.11.1977**.

REGISTRAR

Dated : 27.10.1977.

BHOPAL UNIVERSITY
BHOPAL
Advertisement No. 3/77

Applications on the prescribed form (obtainable free by sending a self addressed envelope of size 24 x 12 cms. bearing stamps of 35 (Paise) are invited for the post of REGISTRAR in the scale of Rs 1100-50-1300-50-1600 with benefits of allowances as are admissible under the rules of the University.

QUALIFICATIONS

ESSENTIAL

(i) First or Second Class Post-Graduate Degree.
(ii) At least ten years administrative or teaching experience in a responsible position, preferably in a University or in a Post-Graduate College.
(iii) Proficiency in Hindi.
(iv) Upper age limit 55 years as on **1-10-1977.**

DESIRABLE

(i) Familiarity with the working procedures of a University or an equivalent Institution of Higher learning.
(ii) Experience of teaching in a Post-Graduate College or University.

Qualifications and age may be relaxed by the Executive Council on the recommendation of the Selection Committee in cases of Scheduled Castes/ Scheduled Tribes candidates or those who are otherwise found suitable.

Higher starting salary may be considered in the case of an exceptionally qualified and experienced candidate.

Persons already in service must apply through proper channel. They may send an advance copy of their application within the due date and should bring a "No Objection Certificate" from their employer, when called for interview.

The applicant should mention the names of two referees one of whom should be his present/ immediate past employer.

Candidates shall have to appear for an interview at their own cost and produce their original degrees, certificates etc. at that time.

Applications accompanied with a crossed Indian Postal Order for Rs. 15.00 in favour of the Registrar, Bhopal University, Bhopal should reach the undersigned by name on or before **25-11-1977.**

The University reserves the right to negotiate with suitable person or persons, if necessary.

M. G. Paithankar
REGISTRAR

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JADAVPUR UNIVERSITY
CALCUTTA - 700032

Dated: 27th October, 1977

Employment Notification No. A2/C/3/77

The University invites applications in the prescribed form for the following posts:

1. (a) Professor of Food Technology & Biochemical Engineering—1
   (b) Professor of Mechanical Engineering—1
2. Registrar—1
3. Lecturer of Mathematics—1

Qualifications for all posts at 1 & 3:

(i) Research Degree of Doctorate standard or published work of equally high standard (relaxable in case of candidates having brilliant academic career and research experience).
For post at 1 (a) : First Class Bachelors Degree in Food Technology/Biochemical Engineering/ Chemical Engineering and Specialization in Cereal/Fermentation/ Protein Technology essential.
(ii) **For Post at 1 (b):** Specialization in Production Engineering/ Machine Design/Fluid Mechanics or Heat Power. **Consistently good academic record with at least high Second Class Master's Degree in a relevant subject.**

For Post at 2 : Adequate academic qualification and sufficient experience of educational administration. The requirement of administrative experience may be relaxed in the case of a teacher candidate.

Experience

For Post at 1 : 10 years teaching/ industrial/research experience including 5 years teaching experience at the postgraduate level; proven ability to guide research.
For Post at 3: 2 years research/ teaching experience up to honours standard.

Scale of Pay

Professor : Rs 1500-60-1800-2000-125/2-2500/-.
Registrar: Rs 1100-50-1300-60-1600/- (under revision to Rs 1500-2500/-).
Lecturer : Rs. 700-40-1100-50-1600/-.

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REGISTRAR (offtg.)

Democratic Experiment in Delhi University

(*Continued from page 576*)

ing those of science teachers who are devoid of any such opportunity now, abolition of governing bodies and restructuring the nature and content of present unacademic hierarchy.

This process must begin with making the Staff Council the most important decision-making body with jurisdiction over all the activities connected with the college. Any other solution will only be piecemeal, which will only postpone the issues, the most important of which is the introduction of democratic content in our universities.

(Courtesy: The Hindustan Times)

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University News

A CHRONICLE OF HIGHER EDUCATION & RESEARCH NOVEMBER 16, 1977 80 PAISE

U.G.C. and Review Committee • Science and Technology

Dr. Pratap Chandra Chunder, Union Minister for Education, Social Welfare and Culture, delivering the convocation address at the Indian Institute of Technology, Bombay.

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ORRIGENDUM

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* * *

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* * *

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5. The University reserves the ri to fill up or not to fill up the post a or to call only selected candidates interview at their own cost.

REGISTR

UNIVERSITY NEWS

Vol. XV **NOVEMBER 16**
No. 22 **1977**

A Fortnightly Chronicle of Higher Education **Price 80 Paise**

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Hony. Editor : ANJNI KUMAR

U.G.C. and the Review Committee

K. L. Joshi

The Review Committee on the UGC was appointed by the Government of India in August 1974 for examining the functioning of the UGC and make recommendations "conducive to more effective discharge of its responsibilities". They submitted the report to the Government by August 1977 and it is understood that the Government is engaged in examining the report.

Debatable Recommendations

In the first place, it may be pointed out that the report has certain political overtones as, for example, the interim recommendation of the Committee for making higher education a concurrent subject. The 42nd Amendment to the Constitution, without much debate effected this which is a debatable point because the Education Commission had said that there was "plenty of scope within the present constitutional arrangement to evolve a workable centre-state partnership in education and that this has not yet been explained to the full". The Education Commission had further said that trial should be given for this constitutional position for at least ten years and then it could be reviewed. The review could be done by Parliament only. It is true that the Radhakrishnan Commission and the Sapru Committee of the Parliament had recommended that higher education should be made a concurrent subject. However, there is a debate about this and the constitution makers had thought of the principle of democratic decentralisation of education making the Central Government responsible only for coordination and standards. There are some merits in this approach, particularly because, the 110 universities, more than 4,000 colleges and more than 40 lakhs of students cannot be managed by the Central Government under the concurrent list and the power has to be decentralised among the states. To say the states and the universities have mismanaged higher education is not administratively a correct proposition because by the same token the Central Government or the UGC could also mismanage the affairs.

Disregard for Autonomy of Universities

There is too much respect for centralisation of higher education in the report and less regard for the autonomous corporations that the universities are and for the academics and students who are largely involved in the process of higher education. This has resulted in making recommendations about the UGC doing too many things like examination reform, raising teachers' qualifications, limiting the number of students, supervising the syllabus in different courses

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Former Vice-Chancellor, University of Indore and generally carrying out these functions through legislative action rather than through persuasion and debate. In reviewing the work of the UGC over the last 20 years the Committee has highlighted the many acts of omission on the part of the UGC mostly suggesting that UGC should have done this or that without understanding why it was not possible for the UGC to take a particular course of action. For example, they have criticised the UGC's attitude towards the various reports of the review committees appointed by the UGC on reform in the curricular studies, in the courses of instruction in different disciplines. The reports were circulated to the universities but no action seems to have been taken by either the UGC or the universities. In the first place, it is difficult for a Board of Studies in the universities to accept a report of a Committee of the UGC without criticism and debate and it may be pointed out that the reports were considered by most of the universities through their Boards of Studies and Academic Councils, who found them inadequate though some universities picked up some good points of such reports. To say that the reports of expert committees of the UGC should be the final authority on the curricular reorganisation is inconsistent with the autonomy of the universities which could argue that they could understand very well the capacity of the students for the courses as well as the standard implied in the revision of any courses of study. To say that whatever the UGC says must be accepted by the universities without criticism, debate or discussion was never in the mind of the UGC during the second period of its development for the report mentions first period to cover the years of 1956-61, second period 1961-73 and the third period 1973-75. During the second period many schemes like those of centres of advanced studies, summer institutes, revision of scales of pay of teachers, larger grants to colleges for libraries, hostels, teachers quarters etc., were introduced for the first time and various review committees were also set up but the chairman and the members of the commission always felt that it was better to carry the universities with them rather than push ideas down their throats creating an opposition from the academics to the UGC. Actually the second period was heralded by the universities as a period of enhancement of academic values, greater respect for teaching and research and greater feeling for the amenities to be provided for the students.

But the Review Committee feels that the UGC should have overpowering influence over the universities which the latter would normally resist as independent corporations. There was also another factor that the universities had to depend on state governments for maintenance grants and state governments very often did not respect the recommendations of the UGC which involved additional expenditure to the states because they said that the UGC had no ideas regarding the financial difficulties of the state governments. Therefore, the UGC was caught between scylla of the universities and charybdis of the state governments.

Throughout the report the Committee point out that the government should provide substantially larger amounts in the budget of the UGC. During the last 20 years in the discussions with the Planning Commission or with the Ministry of Education and Ministry of Finance every year the UGC had made a claim for more funds for universities and colleges to be provided by the government. This has not been possible because of the priorities of the sectors of economic planning. Actually the progressive trend has been to provide less percentage of the total plan provision for education over the 5 plans. Therefore, this is a cry in the wilderness.

Further, the Committee mentions that the UGC should have more powers that they have to-day to follow up programmes with the universities and the state governments. This also will appear to be an impossible endeavour because by mere legislation the universities cannot be made to sing to the tune of the UGC. Universities are not only autonomous corporations but they have got their statutory bodies like the Court, the Academic Council and the Executive Council which advantage the UGC does not have. Therefore, the universities debate and discuss academic excellence more freely than the UGC. It was because of this reason that in the second period mentioned by the Committee the UGC followed the course of persuasion and discussion rather than legislative action against the universities. Actually the third period from 1973 to date has been a period when the academics have started questioning the schemes of the UGC because they would not like their freedom to be interfered by the UGC. If, of course, financially attractive schemes are proposed by the UGC the universities accept them because they do not lose their freedom to discuss and debate and arrive at programmes which have a consensus of opinion.

Changing the Name

This takes us to another recommendation of the Committee regarding changing the name of the UGC into university education commission. This would be a wrong nomenclature to the present UGC because the major activity of the UGC is and will be providing grants to the universities after examining their needs. The other aspects of academic programmes are matters for the universities to consider or for the AIU (Association of Indian Universities) which should suggest programmes to the UGC. The small academic committees of the UGC cannot influence to 110 universities and nearly 1,50,000 teachers. Determination of standards and coordination can be done by the central organisation of UGC only through making appropriate grants to the universities though they may be unable to do it because of the lack of central funds and state governments do not have adequate finances either.

Coordinating Finance

The problem for the universities today has to be seen in a different perspective in the light of reorganisation, systems analysis and coordination—points which have been touched upon by the Carnegie Commission reports and in the study 'Higher Education from Autonomy to Systems' edited by J. A. Parkins of the International Council for Educational Development.

Actually it will be seen that both the Sargent and Radhakrishnan Commission reports had thought of providing maintenance and capital grants through UGC to the state universities coordinating the funds of the state governments for the purpose in the UGC. This point was not considered by the Parliament when they passed the UGC Act in 1956. The committee has not taken a note of this point and not thought of the large share of the budget of the UGC—more than 1/3rd of the total funds—provided for central universities which account for nearly Rs. 20 to 25 crores a year and are likely to increase every year. It would have been much better if the maintenance grants to these universities were given by the Ministry of Education and UGC provided only development grants to them so that all the universities in India would have been treated on equal footing by the UGC. Instead of this logical proposition the Committee thinks that there should be a separate cell in the UGC with separate funds for the central universities. This indeed is unhealthy and regressive for higher education in the country, denying equality of opportunities to all universities as national institutions.

Why U.G.C.

A question which the Committee has never answered as to how technical, medical, technological, agricultural and legal education is being developed without a UGC. In the field of technical education they have been able to establish the IITs which have established high international standards. In medical education All India Medical Institutes have been established which again maintain international standards. The same can be said about agricultural universities. If these sectors can develop well without a UGC the argument would in favour of establishing a Ministry of Higher Education coordinating all sectors of higher education *i. e.* engineering, technology, medicine, agriculture, law, etc., by devising an administrative machinery for the purpose, so that the present UGC could merge into the proposed Ministry of Higher Education. This is the point made by international scholars like Parkins, Clark Kerr and others who point out that in federative states the British type of UGC was not likely to succeed. John Wolfenden, former Chairman of the British UGC said "the UGC is what many would call 'a typically British' institution. They mean that on the face of it, it is *illogical, irrational and untidy*. The answer is that while it may deserve all these adjectives, the fact is that it works—like a good many other institutions which are called 'typically British'. The point made by Wolfenden appears to be that British UGC is an inimitable model for federative countries and even a unitary state like Japan has not accepted the model.

Controlling Numbers

The committee have raised the point of numbers which they think should be controlled by the universities and the UGC. This is an impossible task as pointed out by the Parliamentary Committee earlier in1967-68 and the real position is that when elementary education is made universal and compulsory by state governments upto the age of 14, the bulk of students who would naturally go into institutions of secondary and higher education would be larger every year till we achieve 0 percent population increase. It may be pointed out that the percentages of enrolment figures for the year 1973-74 were 90 for age group 6 to 11, 45 for age group 12 to 14, 25 for age group 15 to 17 and 4.4 for higher education of age group 17 to 22. The last figure indicates that this is not high in relation to national needs and cultural upliftment of society. The device to be used therefore is to establish community/junior colleges for the age group 16-18 affiliated to the universities providing opportunities for general and vocational education and awarding the diploma of AA (Associate of Arts) at the end of the courses. This will satisfy most of the students and those who want to do higher studies further will be smaller in numbers. Besides open university and correspondince courses will provide opportunities of higher education for everyone who would like to have the prestigious higher degree of a university. These junior colleges have to be integrated with polytechnics, junior technical schools and other institutions of that level, industrial training institutes, and junior teachers colleges. In this way the universities will be strengthened and it would not be necessary to have any intervening machinery with legislative powers to control the numbers as well as the universities. All the coordinating and administrative functions would belong to a Ministry of Higher Education at the centre responsible directly to the Parliament.

Man-power calculations cannot be done for those who pursue the humanities and social sciences and commerce courses. The Carnegie Commission have examined this issue and have arrived at this conclusion and so also Lord Eric Ashby, and we have no reason to worry about national standards if the first 10 to 20 percent of the students are good in the pipeline of higher education providing bright students for medical, engineering, technological, agricultural, legal courses as well as those in social sciences, humanities and science. Only a Ministry of Higher Education could establish a co-ordinating body for NEST, CSIR, ACE, ISSR, ICHR, ICAR, ICNR and AICTE. For indeed, coordination and systems analysis have evolved into the systems of higher education as a new phenomenon in all countries and as no single institution can provide the myriad specialities that now comprise higher studies it is necessary that the whole field is covered into a coordinated system of higher education, directly under Central Government. ☐

On the Reliability of Ratings in Interviews

V. Natarajan*

It is almost universal practice to use 'interviewing technique' for purposes of selection of individuals for jobs, positions, admission to further courses etc. Its form has varied over the years but essentially the technique has retained its place. Some 'established' schools even conduct interviews to admit children to Kindergarten classes. Selection procedures as opposed to methods of achievement measure must be used to pick up or select the right kind of persons for jobs, positions, scholarships and admission to further courses. Here the main objective will be to find methods, forms and modes that will *distinguish* and *differentiate* the person (from others) who will fit into the specifications of job requirement, position requirement or traits required to be successful in the future course of studies. Very often the traditional and more established procedures at all levels have a tendency to eliminate rather than *select* just the same way our tradition examinations try to find what students do no know instead of trying to *assess* what they *know*. The aim of this paper is in part to look at some forms while the major emphasis will be given to present a method of assessing the reliability of 'interview' ratings and suggest ways and means of introducing validity and meaning to our selection procedures with interviewing techniques as one of the components.

Some of the methods where interviewing technique is used for selection of persons for jobs, positions and admission to further courses are discussed below.

I. Interview by a Panel: This is the usual and traditional method. When applied to 'selection' of persons for jobs and positions, applications (giving bio data, qualifications, experiences supported by certificates and testimonials) will be scrutinised carefully by a panel and those who satisfy the assumed criteria will be called for an 'interview' with a panel of selection committee members. A few of them will be from 'outside' and called 'experts' while a few will be those concerned with the organisation, the Head of the organisation and the Head of a Division where the job is positioned. Very often the panel members would be meeting for the first time just a little while before the intended interview: very often they would not have had enough information about the job and its requirements. Very often again they would not have prepared questions to be posed. There has been so much of adhocism in the whole process of 'interviewing' and fairness of selection 'questionable'. All kinds of 'malpractices' can enter and have entered in the past with the result everyone has lost faith in this system. While this is a form of selection that will certainly live with us for quite some time, it is disheartening to find that attempts at improvement of this (with a view to make it more and more scientific) have been few and far between. Certain suggestions are given here to improve this system.

(1) The job and its description will be given to every aspirant.

(2) Application blanks will have to be scientifically prepared soliciting all kinds of *relevant* data and information about the applicant in respect of qualifications and experience and personality characteristics like Hard work, initiative, originality, attitude, etc.

(3) Data and information collected will have to be processed scientifically with a suitable system of weightages and on the basis of this data processing, applicants will have to be listed in order of merit to be called for interview.

(4) Wherever possible, those who have been selected may be asked to take a selection test (fixed and free response types) which is prepared to fit very closely to specifications of the job requirement.

(5) An interview trying to assess the person's ability to express, argue, ability to think clearly, ability to judge and evaluate, etc., may be conducted. The panel with experts must prepare well in advance certain questions some involving fixed response and others free response for the interview. The author has used with advantage a procedure where questions are written in small pieces of paper and given to interviewees for answering.

II. Interview by a Panel Sitting Individually: Very often for purposes of admission to further courses (professional courses especially), interview technique involving a panel sitting individually and judging the performance is what is adopted. Certain criteria are

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Project Officer (Exams), AIU, New Delhi usually laid down and weightages allotted for achievement in the previous qualifying examination and the performance in the interview. It is possible in this procedure to take care of various factors and this lends itself quite appropriate for evaluation. At the same time there is plenty of scope for malpractices. Certain suggestions can be given to make this procedure much more meaningful and valid.

(1) The panel must meet and sort out heads of assessment and procedures of assessment. They must think of more objective forms of checking the traits they are going to measure.

(2) Proper weightages have to be given and perhaps communication to interviewees before hand.

(3) Ratings (rank order, mark, etc.) will have to be compared and if possible the reliability of these ratings ascertained. It is absolutely necessary to give weightages to written tests, interviews, etc., based on the reliability of these component measures.

III. Successive Interviews: There are some organisations (usually the private sector) who select their persons on the basis of a series of interviews, the preliminary ones to find out suitable people who can stand upto their more rigorous interviews later. A system of preliminary interviews and a final interview is in practice. Where this is done, very often the tendency has been to eliminate quite a good number at the preliminary stages and keep a handful for the final interview. This happens whenever (in our country) private sector wants to recruit suitable persons for their jobs. Regional interviews (preliminary) will be held and at every centre in the region, a few (two or three usually) will be selected for a final interview as a central place. Usually the final interview will be in the form of a written test together with interview with a panel all sitting together. Recruitment to the services (Army, Navy and Air Force) is also of similar pattern.

IV. Selection Based on Outstanding Performance in the Previous Qualifying Examination: This is also in practice in firms (particularly Engineering Industry, Pharmaceutical, Heavy and Medium Industries) to offer a kind of apprenticeship training or officer training to those who have shown outstanding performance in the previous qualifying examination. Very often the training given to them is so comprehensive and exhaustive that they do not recognise the merit of their performance in the previous qualifying examination beyond the point of selection.

V. Interview After a Written Test: Many organisations (Banking, Insurance, Public Sector Project Undertakings) have their own well established and well prepared written tests administered. These tests very often combine objective type, short answer, essay and problem solving questions together with attitude/interest scales and performance questions. Here again certain suggestions can be given to make these written tests still better. Some of these are:

(1) The specifications for these tests (for making questions/items) should be derived from job descriptions and job requirements. A systematic job analysis (combination of questionnaire, interview, on the job work-time studies, etc.) must be done and description and requirements derived on the basis of successful job performers. The author* successfully completed job analysis of technician level jobs in Automobile Engineering for a systems design of a 6 semester technician diploma course. These tests will have to be made by a panel of subject experts, job performers, evaluation experts all sitting together and analysing the specifications.

(2) In order to improve reliability (selection type tests must have a very high degree of reliability) most of these must be of *objective* type and short answer type.

(3) Over the years, the performances of those selected on these tests must be correlated with the performances on the job and if necessary, tests revised on the basis of 'feedback'.

VI. Selection Based on On-the-Job Trials: Even though this is seldom used in Indian context, this has a tremendous potential. Teachers, Salesmen, Managers and the like can be selected on the basis of their performance of teaching to a small group; (observed by *raters* with a checklist of criteria for evaluation) on the basis of actual selling and on the basis of managing for a specified period of trial time. The author is aware of an Institution that tried to select a Head of a Department by attaching the interviewees one day each to various departments and evaluating their work (This has a very high validity and to make it reliable, every department will be given a check list of criteria with which to judge.)

VII. Selection to Jobs/Positions by 'Invitation': Sometimes for top positions and specialised jobs, a panel of outstanding persons' names will be made and they will be 'invited' to take up these positions. Usually Vice-Chancellors for Universities, Members of Commissions, Members of Committees will be selected on this basis. The success of these persons in these jobs are purely based on 'chance' factor.

After having reviewed these methods involving 'interview' technique of one form or the other, let us take up the most important question of the degree of reliability (agreement, consistency, acceptability) of such an interview procedure and also its relations with the component of written test performance.

**Natarajan V—'A system approach to the design of Educational and Training Systems in India'—paper to be presented at an International Conference in Cairo on Nov. 25-28, 1977, in Proceedings by Pergamon Press, London, 77.*

The ratings by three selection committee members (independent of each other) of 7 candidates who appeared for an interview are given below:

TABLE

S.No.	Person	Rater			S	S^2
		I	II	III		
1	A	5	2	5	12	144
2	B	1	1	2	4	16
3	C	6	4	7	17	289
4	D	3	3	4	10	100
5	E	2	7	1	10	100
6	F	7	5	6	18	324
7	G	4	6	3	13	169
		28	28	28	84	$114^2 = \Sigma S^2$

Here k = 3, no. of raters
N = 7, no. of those rated

We have here the rank positions of the seven persons as given by three raters.

Applying formula

$$*\bar{p} = 1 - \frac{k(4N+2)}{(k-1)(N-1)} + \frac{12\Sigma S^2}{k(k-1)N(N^2-1)}$$

where $\bar{p}$ = average inter-correlation among individual judges

k = No. of judges

N = Number of those rated or stimuli

S = Sum of the ranks for any stimulus or person

The average rank order inter-correlation

$$\bar{r}_{11} = 1 - \frac{3(28+2)}{(2)\,(6)} + \frac{12\times(11,42)}{(3)(2)(7)(48)} = 0.30$$

What will happen if the number of raters is doubled? We can apply Spearman Brown formula

$$r = \frac{2\times r_{11}}{1+r_{11}} = \frac{2\times 0.3}{1+0.3} = \frac{0.6}{1.3} = 0.46$$

The average rank order inter-correlation or reliability of rating by 6 raters will be 0.46. While those of 3 raters is seen to be 0.30.

The most recently suggested method of estimating reliability for ratings has been described by Ebel**. If each of k raters has rated N persons on some trait on one occasion, we have the possibility of obtaining inter-correlations of ratings of the N persons from all possible pairs of k raters.

This suggests the use of the statistic known as the intra class correlation, which given essentially an average intercorrelation. Ebel's formula is:

$$\bar{r}_{11} = \frac{v_p - v_e}{v_p + (k-1)\,v_e}$$

where $\bar{r}_{11}$ = reliability of ratings for a single rater
v_p = variance of persons
v_e = variance for error
k = number of raters

It should be noted that this gives the mean reliability for one rater. The reliability of the mean of k ratings for each person would be greater. For this Ebel gives the formula

$$r_{kk} = \frac{v_p - v_e}{V_p}$$

This gives the reliability for mean ratings from k raters. One could arrive at the same result by applying to this reliability for 1 rater, the Spearman Brown formula to predict the reliability for a measure k times as long.

Ratings of seven persons made by 3 raters (for a group of the same accepted traits) prepared for deter-

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**Guilford— Psychometric methods—page 253*

***Ebel R.L.—Estimation of the reliability of ratings, Psychometrika, 1951, 16, 407-424* mining variances used in estimating reliability of ratings:

S.No.	Person	Rater			ΣX_p^2	ΣX_p^2
		I	II	III		
1	A	5	8	5	18	324
2	B	9	9	8	26	676
3	C	4	6	3	13	169
4	D	7	7	6	20	400
5	E	8	3	9	20	400
6	F	3	5	4	12	144
7	G	6	4	7	17	289
ΣX_r		42	42	42	$126 = \Sigma X$	$2402 = \Sigma(\Sigma X_p)^2$
$\Sigma(Xr)^2$		1764	1764	1764	$5292 = (X_v)^2$	

$$\Sigma X^2 = 840 \quad \frac{(\Sigma X)^2}{kN} = \frac{126^2}{3 \times 7} = 756$$

The sum of squares for persons is

$$\Sigma d_p^2 = \Sigma\ \frac{(\Sigma X_p)^2}{k} - \frac{(\Sigma X)^2}{kN}$$

$$= \frac{2402}{3} - 756 = 44.66$$

The sum of squares for raters is

$$\Sigma dv^2 = \Sigma\ \frac{(\Sigma X_v)^2}{N} - \frac{(\Sigma X)^2}{kN} = 0$$

The total sum of square is

$$\Sigma X_t^2 = \Sigma X^2 - \frac{(\Sigma X)^2}{kN}$$

$$= 840 - 756 = 84.00$$

And finally, the sum of the squares for remainder or error is

$$\Sigma d_0^2 = \Sigma X_t^2 - \Sigma d_p^2 - \Sigma d_r^2$$

$$= 84 - 44.67 = 39.33$$

Computation of variances needed to estimate Reliability of the ratings

Source	Sum of squares	Degrees of freedom	Variance
From persons	44.67	6	7.445
From raters	0	2	..
From remainder	39.33	12	3.2775

The sums of squares are given above, their degrees of freedom and the two variances we need V_p & V_e

$$f\,\bar{r}_{11} = \frac{7.445-3.2775}{7.445+(3-1)\ 3.2775} = 0.298$$

This is the reliability for *one* rater. For the three raters combined or for the averages of their ratings

$$r_{ss} = \frac{7.445-2.775}{7.445} = 0.560$$

Spearman Brown formula for 3 raters from 1 rater of 0.298 gives the same result.

It may be seen that the earlier formula is quite easy and less time consuming. The author recommends the use of this formula in preference to Ebel's formula.

Conclusions

The reliability of ratings for one rater is found to be *0.298* or *0.30* (by less tedious formula). The rating of any individual has a consistency or reliability of 0.30 only. This means that for 30% of cases only, there will be agreement for ratings given by the individual. One conclusion is to take any one rater's ratings and give it only 30% credit. If there is a written test component alongwith the interview, the written test can be given 70% credit and the interview 30% credit. The total is worked out from every candidate and the person who has the highest score can be selected. Another procedure is to average the ratings (combine the three persons' ratings) and give it in our case a credit of say 60% and the written test the balance of credit of 40%. The person who finishes at the top can be selected. It is therefore necessary to work out the reliability of ratings of one rater or all the raters put together and take this into account suitably. It is hoped that all agencies like U.P.S.C., Universities, Colleges, Firms, Industries engaged in selecting persons for jobs, positions, admission to further courses, will do similar calculations for reliability of ratings and suitably take this into account thus assuring credibility in their decisions. □

Continuous Assessment and Educational Objectives

Satya Pal Julka*

In one of his articles, entitled 'Examinations Versus Education' in 'The Oxford Magazine', F.W. Bateson made a very interesting observation. "An undergraduate comes to a university to be educated; instead he finds himself being 'prepared' for this or that examination. If he acquires some incidental education—generally from his fellow undergraduate or dons on duty—this is secondary to continuous rehearsal for a series of invigilated three hours papers that are to be the culmination of his career here".

The remarks about Oxford University are meaningful in the context of our system of education and examinations also. The significant point is that testing necessarily puts certain constraints on education and that it is a universal phenomenon. It is, therefore, being realised that reforms in the system of examinations cannot be isolated from the totality of the system of education. In so far as the system of education is useful and meaningful in the socio-economic and cultural context only, the system of examinations should both realize as well as be conducive to the clarification and framing of the goals and objectives of education.

The proposed examination reforms, therefore, relax stress on the end-of-the-course/year examination and emphasize 'continuous' or internal assessment by the teacher who teaches as part of the total assessment. It will be of interest to examine the full potential of the scheme and place in perspective its contribution to the realisation of educational objectives, the improvement in the methodology and techniques of teaching, and the measurement of learning outcomes. All these elements are in a certain way indissolubly linked.

The concept "is not meant to enforce discipline", according to the reports of U.G.C. Zonal workshops. The goals are to make the process of evaluation and assessment continuous, to integrate teaching and testing, to test the skills that a written examination cannot possibly test and to ascertain how the students are working. However, its impact can be deeper and far reaching if properly implemented coupled with a sense of sincerity on the part of the academic community. Continuous assessment should emerge as an autonomous model. The full force of the scheme can be felt only if it promotes the building up of the total personality of a student, inculcates a spirit of well founded confidence and fights his shyness in speaking and presenting his views before others, while taking care of his academics simultaneously. It is in search of some of these ideals that some parents have been spending money of sending their children to public schools and more often to pseudo public schools with the end results not always satisfying. The implementation of the scheme at various universities, however, leaves much to be desired. Most of the universities have implemented it as mini-examinations of tests conducted periodically. They have not made it a part and parcel of the final assessment at the university end-of-the-course/year examination. This may be due partly to the absence of foolproof norms for purposes of assessment, partly to the absence of conditions, facilities and atmosphere conducive to the satisfactory functioning of an educational institute, and partly to the undercurrent of lack of faith and trust not only in the abilities of the teachers but also in their sense of honesty and integrity.

It is, therefore, necessary that the teachers display the highest degree of professional ethics when evaluation of students is left exclusively to their care. Experimentation and learning should be a never-ending process for them. The authorities should provide maximum facilities to the teachers to engage in research and improve the quality of teaching.

Experience has revealed that a large number of students at our universities are not there in quest of knowledge or learning. There is an opinion that with the introduction of 10+2+3 pattern of education the flow of number to the universities will be arrested and only students with aptitude and desire for learning will go up. With the existing student-teacher ratio and over-populated classes the model of continuous assessment has to apply more at the group level than at the individual level. Application at the group level obviously implies that assessment will have to be non-evaluative, with the other objectives remaining the same. This may be an extension of the semantic range of 'assessment' but it is meaningful and useful in the context of the present situation. It also highlights the flexibility and dynamism of the proposed model. Its operational potential is pertinent now and will be conducive to the improvement of

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Lecturer, Zakir Husain College, Delhi.

the quality of instruction both at levels where the numbers are large and where the numbers are more manageable. At the former level it can work with a reasonable group as the smallest unit and at the latter level it can work with an individual as the smallest unit. At a certain point of time when, with the introduction of 10+2+3 pattern of education, there will be no freshmen at colleges and numbers will be considerably reduced, the model can be made to work with the individual as the smallest unit. It will yield better quality of instruction and can be effectively deployed for purposes of 'evaluative assessment'.

The scheme should be split up into four parts:

i) testing integrated into teaching, constantly modifying and refining teaching, and being in turn modified and refined by teaching;

ii) periodic oral tests;

iii) regular home assignments, with references to the available source materials;

iv) periodic (two or three a year) written tests of one hour duration each to serve both for purposes of evaluation as well as for preparation and practice for end-of-the-course/year written examination.

The first part is constant, with the others serving as variables to be used according to the demands of the situation. The first part, however, has a bearing on all others. It involves matters of teaching techniques and methodology which have not yet received their due consideration or have not met with acceptability at the level of higher education. It requires selection or preparation of teaching materials, their presentation in the classroom, and a technique of questioning which has now become a discipline in its own right.

The model envisages the following steps to be gone through in each hour of instruction.

1. Judicious selection or preparation of material that can be appropriately covered in the specified time. This is, of course, pre-classroom activity.

2. First half of the available time to be spent on the presentation of the material according to the level of students. The higher the level, the greater the appropriateness of using the lecture mode so that at the highest level the entire hour may be devoted to lecturing, if the need be, to be immediately followed by another hour for the other steps. Obviously at lower levels the lecture mode could be completely discarded and active student participation ensured in the process of learning.

3. It should be immediately followed by some oral questions to test and revise. At the higher levels the students could be engaged in a discussion amongst themselves, with the teacher's questions providing the prompting service.

4. This should be followed by a short written exercise, preferably comprising objective type items (True/False type, multiple choice/multiple facet type, matching type etc.).

5. A few minutes could finally be spared for the students to engage in combining certain items/ideas or creating new ones, in which even previous lessons might also have a part to play.

6. Long answer/short answer questions could be set aside for home assignment.

Some of the advantages of adopting this model of continuous assessment can be summed up as follow:

1. Inculcation of more comprehensive skills that are required only for the end-of-the-course/year written examination, thereby building up the total personality of a student.

2. Some direct or indirect knowledge of students for the teacher either on the individual level or the group level as the situation may be, leading to the modification, refinement and change of techniques if necessary.

3. A certain self-evaluation for the teacher.

4. Student participation in the process of learning, a concept usually lauded theoretically but seldom practised.

5. Greater interest by a shift in activity from oral to written imitation to creativity and vice-versa.

6. Ensuring better concentration by keeping the students alert and active throughout.

7. Consolidation of learning by testing, revision and variation of activity, thereby helping retention.

This approach to teaching implies more work and preparation for the teacher. The courses of study should be reorganised and re-structured, keeping this fact in view. In the interest of quality of instruction, the actual work-load of the teacher and the student-teacher ratio should be rationalised. 10+2+3 pattern of education should pave the way for this if its true objectives are to be realized.

Working with this model also implies much harder effort on the part of the teacher in the classroom than simple lecturing. But the model proposed has the in-built infra-structure to provide relief to the teacher. When the students are busy writing during the teaching hour, the teacher can snatch a moment to relax. This will also bring him back to teaching with greater vigour.

This treatment of the constant part of continuous assessment, either evaluative or non-evaluative as the case may be, has been undertaken at length because it constitutes the core of the model. Periodic oral tests, home assignments, and periodic written tests can be treated as purely evaluative variables, to be used according to the needs of the situation. However, if all three can constitute a part of assessment, the reliability and validity of assessment will go up. Moreover, they can also be a means to better preparation for the end-of-the-course/year written examination, though that should not be their only purpose. □

CONVOCATION

Science and Technology : Achievements and Weaknesses

When we became independent in 1947, the basic institutional infrastructure required for the proper development of science and technology was limited and our indigenous capability to promote it was far too inadequate to meet the challenges of national development. It was therefore but proper that Pandit Jawaharlal Nehru gave his full support to two major programmes, viz., (1) the building up of the essential institutional infrastructure; and (2) the creation of high-level trained man-power, so that we can develop an indigenous capability oriented to solving our problems and related to our needs. The success achieved in both these directions has been highly commendable. During the last thirty years, we have: developed a major programme of atomic research; expanded considerably the activities of the CSIR and its national laboratories; developed centres of excellence like the Indian Institute of Science, Bangalore and the Tata Institute of Fundamental Research, Bombay; expanded and improved the teaching of science in the universities; established five Institutes of Technology and fifteen regional Engineering Colleges and expanded and improved other Engineering Colleges; established agricultural universities and expanded and improved agricultural colleges; and established centres of excellence in teaching and research in medicine and expanded and improved facilities for medical education.

Side by side, we have also tried to create a high-level trained technical man-power and today we have a scientific community which is regarded as the third largest in the world.

These achievements in a short span of about three decades are something to be proud of. India can no longer be regarded as technologically or industrially a backward country: we have been able to build up a large sector of modern industry and to cut down very largely on the industrial products we used to import. In fact, we even export several sophisticated industrial products. Our agricultural scientists have made a major contribution to increasing food production, and our medical personnel provide an advanced and sophisticated health service. We now have an excellent institutional base in teaching and research in science and technology, a large and competent scientific community, and an indigenous capability which is unique among the developing countries.

There is, however, another side to this story and it would not be wise to ignore some of the major weaknesses of the present situation. In particular, I would like to invite attention to three aspects of the problem.

(1) We are not making full use of the high-level technical man-power we have. A large number of technically trained persons go abroad on the ground that they do not have adequate opportunities here. Moreover, a large number of them are unemployed or mis-employed on jobs which cannot provide any outlet for their talents and skills in science and technology. It is all the more to be regretted because this happens in the face of millions of tasks that are crying to be attended to.

(2) Science and technology is now fairly well-harnessed to the service of the rich and well-to-do classes. But it has not made much impact so far on the lot of the poor people in our country, whether urban or rural. It has, in fact, widened rather than reduced, the gap between the life-styles of the rich and well-to-do people on the one hand and the poor masses on the other. This is a serious weakness because the most urgent problem of national development, in my opinion, is to eradicate poverty and to assure a minimum standard of living to all our people.

(3) Science and technology have transformed the life in urban areas. But the benefits of this transformation do not reach the poor people who dwell in slums and who have to suffer most from pollution and insanitary conditions. In rural areas, agriculture has been transformed through irrigation, improved seeds and fertilizers. But in other respects, very little impact has been produced.

There is no doubt that education, science and technology hold a key to the solution of our pressing problem of hunger, ill-health and illiteracy; and yet we find a large gap between its promise and actual performance. Why is this so ? In my opinion, the answer lies both within science and technology and outside them. We must ascertain the causes of this failure and mount a simultaneous attack on both the fronts.

Reform within the system

It is necessary to understand that, like education, science and technology are double-edged tools. They have important social, economic, political and

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Excerpts from the convocation address of Dr. P. C. Chunder, Union Education Minister, delivered at IIT, Bombay recently.

cultural aspects. Under certain circumstances,they help to strengthen and perpetuate the *status quo* while, given another set of conditions, they assist in social transformation. I think we have not given adequate attention to this aspect of the problem.

Let us examine the various linkages of our science and technology.

(1) One linkage, and a strong linkage at that, is with western science and technology from which we have been borrowing a good deal and on which we are still greatly dependent. This technology was designed for different societies with their own cultural, social and economic conditions. A transplant of this technology in our conditions, which are vastly different, can only create problems, no matter what care we exercise in the 'choice' of a technology. For instance, western technologies are, by and large, capital-intensive and labour-saving and need large energy resources. On the other hand, we need labour-intensive and capital-saving technologies that will need low energy inputs. It is not therefore a question of borrowing or choice of technology : it is basically an issue of developing or generating appropriate technologies of our own, suited to our needs, resource endowment, and aspirations. I am afraid that we have failed and are still failing in this area. There is no adequate effort to generate appropriate technologies of our own, and even where they have been generated, there is often a tendency to play 'safe' and borrow a technology tried abroad rather than to run a 'risk' with a new technology created within the country.

(2) The second linkage of our science and technology, like that of higher education, is with elite social groups, both within the country and abroad. Our intellectuals desire to copy the life-style of the West. They generally look up to the western countries for their models and appreciation. They very often desire to be a part of the world academic community, to write in foreign journals, to publish books adroad, to be invited to conferences in other countries, anp so on. As the Education Commission said, the centre of gravity of Indian intellectual *life is outside* India. Even within the country, the intellectuals generally live in an elite world of their own and are separated from the masses of the people in many ways. The students of the high quality institutional infrastructure we have created for science and technology come mostly from the rich and well-to-do classes and go back into them. The products which we make with the help of science and technology are also mostly the non-essential, luxury goods meant for the rich and well-to-do and *not* the goods needed by the common man or the poor people in their day-to-day lives. In short, higher education, science and technology in India are mostly meant for the upper and middle classes. Unless this nexus is broken, we will neither be able to eliminate poverty nor to create an egalitarian society.

It is probably because of these two firm linkages that our science and technology has so far neglected the rural areas and the poor people. I do not want to suggest that these linkages should be destroyed. They are needed, within reasonable limits. But I am quite clear in my mind that our science and technology will have to be closely linked to the development of our rural areas and the urban slums and to the improvement of the standards of living of our poor people. These are the supreme tasks before the country, and if these are to be properly tackled, several reforms will have to be made within the system.

(1) My first proposal from this point of view is that the functions of all institutions of higher education and of science and technology should be widened. At present, they include only research and teaching, except in the agricultural universities, where extension is regarded as an equally important third function. I am of the view that every institution of higher education must accept all these three functions—teaching, research and extension must give them equal importance. It is the activities of extension that will enable these institutions to understand the problems of the community around and to help to solve them.

(2) My second proposal is that these programmes of extension should, as far as possible, be focussed on urban slums and rural areas. Their problems are not going to be solved unless the entire educational system, and especially the crucial sector of higher education, science and technology, is concentrated on them and on improving the standards of living of the poor people.

(3) My third proposal is that the studies and curricula in these institutions should be suitably changed to include compulsory field-work in the community. This will make the studies better and richer and help to promote the values and attitudes of service to the people.

(4) My fourth proposal is that the talented students from the poor and weaker sections of the community have to be given an increasing sphere in this field which, so far, has mainly remained an almost exclusive monopoly of the rich and the well-to-do. I am very happy that student of the scheduled castes and tribes are now given some reserved access to the Institutes of Technology. The effort obviously needs to be generalized and expanded.

(5) My fifth proposal is that we should give high priority to research on problems that affect the common man or the poor people. For instance, their principal transport is still the bullock cart and the bicycle which need more attention than the automobile or air-plane. Similarly, much greater and more concentrated attention should be given to problems of housing for the poor people (at low cost and with the use of local materials), disposal of night soil in villages, water supply and prevention of communicable diseases, the generation of appropriate technologies for village or

small-scale industries, energy needs of the poorest thirty per cent of the people, and so on. This may not be 'prestigeous' research which can attract attention abroad. But it is certainly the most useful research I can think of for nation-building.

(6) My sixth proposal is to ensure that science and technology do not disturb the ecological balance of nature and do not create pollution. The very existence of man will be endangered if we do not take these precautions.

Reform outside the system

These reforms within the system will also have to be matched by simultaneous reforms outside the system. Among these, I would like to emphasize two. The first is a big drive to eliminate urban slums and to develop rural areas which, in the words of Tagore, hold the cradle of the race. The second is to utilize all available trained man-power to the fullest extent possible. In fact, both these proposals are independent. For instance, it is one thing to say that we have 50,000 unemployed engineers. But even if all of them are unemployed, we will be able to provide only one engineer for ten villages. In fact, if we take up the programme of clearing urban slums and of rural development in a big way, our so-called 'surplus' of trained scientific and technical man-power would overnight be converted into a 'deficit'. Secondly, we must give the highest priority to programmes meant to serve the poor people and to improve their standards of living such as guaranteed employment, public distribution of essential commodities, provision of adequate health services, eradication of illiteracy and universal elementary education.

A Gandhian Science & Technology

What I have been trying to say can be best summarized in one sentence : we need a Gandhian Science and Technology. Let me state categorically that Mahatma Gandhi was not opposed to science and technology though many labour under that wrong impression. He was a great ecologist and humanist and what he said was that he did not want a science and technology that was above the moral order, made a slave of man, and increased poverty and unemployment (which is what science and technology often do). Instead, he pleaded for a science and technology that would serve the villages and the poor and conserve rather than exploit nature. It is this Gandhian Science and Technology which we have to develop and it is for this that I expect you to take the initative and leading interest.

To the Alumni

To the young men and women who have taken their degrees and distinctions today, I give warm felicitations. I wish them a long and happy life of service to the country. Please remember that poor as she is, India has given you a high quality and extremely costly education. This has been mostly paid for by the poor masses. It cannot be regarded as any body's right. It is, in fact, a debt which you owe to the society, a *moral* and *legal* debt, enforceable in a court of law. But in our tradition, it is the moral debts that are considered to be of the highest importance—*Pitri-rina*, *Matri-rina*, *Acharya-rina* and *Samaj-rina*. I would appeal to you to strive your best to pay this *Samaj-rina* or social debt through service to the motherland, and especially to the rural areas and the poor people, both urban and rural. ☐

Dr. Patil honoured

The agriculture university at Rahuri in Ahmednagar district at its 7th annual convocation held in Kolhapur recently conferred honorary D.Sc. degree on Dr. Pandurang Chimaji Patil, the centenarian agricultural expert and first Indian principal of Pune agriculture college. Mr. H.G. Vartak, State's Agriculture Minister and Pro-Chancellor of the university presided over the function.

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J.C. Sen
ASST. REGISTRAR

CAMPUS NEWS

Mysore Stalemate

(From our special correspondent)

The Chancellor of Mysore University, Mr Govind Narain (who is also the Governor of Karnataka), has ordered an enquiry into the affairs of the University. He has appointed Mr. Justice B. Venkataswamy, a retired judge of the Karnataka High Court, to make the inquiry and submit his report in two months.

This is the first time that an inquiry is being held into the working of the 61-year-old University, the first to be established in a princely State before independence and the oldest of three such institutions in Karnataka.

For more than a month the campus of Mysore University has been disturbed by student agitation in which some members of the teaching staff have also joined. The students began their agitation with two demands, resignations of the Vice-Chancellor, Mr. D. V. Urs and Dr. K. L. Shrimali, a visiting professor and added a third, a judicial inquiry into the working of the University, later.

It all began on a fine October morning when Dr. Shrimali was to deliver a lecture at the Central Institute of Indian Languages on the campus at Mysore with Mr. Urs presiding. The students reportedly shouted down Dr. Shrimali, denouncing his "close association with the then Central leaders during the Emergency." The police intervened and made a lathi-charge. Two days later a group of postgraduate students went in a delegation to the Vice-Chancellor's residence to present a memorandum on police "excesses" on students. Mr. Urs reportedly refused to receive the memorandum which wanted the Vice-Chancellor to "condemn the police excesses." Later the same day the Vice-Chancellor was gheraoed in his office for nearly ten hours by the agitated students.

The students wanted an apology from Mr. Urs for his alleged uncomplimentary remarks to the delegation, his resignation from Vice-Chancellorship for alleged extravagant expenditure and cancellation of appointment of Dr. Shrimali as visiting professor. In support of their demands the students began a relay hunger-strike on the campus.

While these things were going on, two teachers attempted to bring about a settlement. As a result of their efforts Mr. Urs had reportedly agreed to tender an apology in the spirit of "forget and forgive", but the students insisted on having this in writing.

The students launched a strike in support of their demands and the University authorities thought it prudent to close the colleges in Mysore city for a short while. As the students' strike entered the fifth day, the Deputy Commissioner of Mysore and anxious parents tried to initiate a dialogue with the University authorities and students for an early reopening of colleges and restoring normalcy.

When things looked promising with the striking students urging the University authorities to reopen the colleges and deciding to return to their classes with reserving their right to continue the indefinite relay hunger-strike, the University Syndicate met and decided to close the colleges indefinitely along with the postgraduate and undergraduate hostels.

A new dimension to the agitation was added when a group of teachers decided to offer "dharna" on the campus in support of the students' demands. They wanted a judicial inquiry into the affairs of the University and a report submitted within a month. They also wanted the Vice-Chancellor to go on leave for the period.

Since the agitation had taken a new turn, the Deputy Commissioner and parents gave up their efforts to bring about a meaningful dialogue.

Fortytwo teachers, including four university professors and nine readers, offered "dharna" by squatting on the lawns of Crawford Hall, the administrative headquarters of the University. They demanded the reopening of colleges, judicial inquiry into the affiairs of the University and cancellation of the appointment of Dr. Shrimali as visiting professor.

The teachers' unusual "dharna" resulted in a couter-"dharna" by another group of about 80 teachers, including some senior professors, to persuade the other group to give up their "dharna."

As the "dharna" and counter-"dharna" by teacher groups continued, the Chief Minister of Karnataka, Mr. Devaraj Urs, made an appeal to Mr C. D. Narasimhaiah, University Professor of English, who was leading the "dharna" to withdraw the agitation immediately. In doing so he made it clear that this was not the way to seek redressal of grievances. Visibly annoyed by University professors agitating with students, he said, "The Government cannot keep quiet and the law and order will have to be upheld."

The teachers ended their "dharna" and a delegation called on the Chancellor with a memorandum which, among other things, demanded a judicial inquiry into the working of the University and cancellation of the appointment of Dr. Shrimali as a visiting professor. Delegation on behalf of another group of teachers and students met the Chancellor with their memorandum. The Chancellor told the delegations that he was aware of the currents and cross-currents in the University and had decided to get certain points made in the memorandum regarding the working of the University and its administration looked into.

The University Syndicate met again and after reviewing the situation arising out of the agitation decided that colleges in Mysore should be reopened. Accordingly, the colleges were reopened on October 29 after being closed for three weeks. The attendance was not encouraging, half the number of students keeping away from classes. A group of students offered "dharna" before the Vice-Chancellor's residence. On the second day of the 'dharna' 25 students were taken into custody by the police on charge of trespass into the Vice-Chancellor's residence. They were remanded in judicial custody since they refused to avail of bail.

The students' arrest resulted in a massive protest before the University office. Police used lathis and burst tear-gas shells to disperse about 5,000 students who had gathered to protest against the arrest of their colleagues. The police claimed that they were forced to resort to lathi-charge and tear-gass because of persistent stone-throwing by students on policemen on duty and police vehicles. The students, however, asserted that policemen threw stones on themselves and alleged that the police raided the Maharaja's College hostel and beat them up "mercilessly."

In view of this incident colleges in Mysore city were closed for the second time, again indefinitely.

A few days after the Chancellor had announced an inquiry into the working of the University, the Syndicate met for the third time in a month and took the unprecedented decision to request Dr. Shrimali to relinquish his post as visiting professor. Dr. Shrimali was quick to react to the Syndicate's decision by sending in his resignation. In doing so he took the unusual step of returning the honorary degree of D. Litt. conferred on him by Mysore University at its convocation in 1969 to acknowledge his services to the University during his tenure as its Vice-Chancellor.

That Dr. Shrimali, former Union Education Minister and former Vice-Chancellor of Banaras Hindu University (he went to Banaras in 1969 after his tenure in Mysore) was hurt by the Syndicate's decision was clear from his letter to the Vice-Chancellor, which he released to the press. He said he was astonished that without any reason he was being asked to relinquish the post of visiting professor created in the name of Krishnaraja Wadiyar, Maharaja of Mysore who founded the University.

Dr Shrimali said in his letter: "I am aware that there is pressure on the University from some political groups and it would have been a more straightforward step for the University to request me to relinquish my professorship on this account. By breaking this contract (which was for one full year), the University is violating all academic values and ethical norms. I am afraid the University authorities are setting up a dangerous and unhealthy precedent for the whole academic world.

When my appointment was announced in December, 1976, I was given to understand that it was greatly welcomed by the academic community and nobody raised any objection between December and March. It was only after the Lok Sabha elections that the controversy was started about my appointment.

I learnt about this controversy only in April on my return from Tokyo. I had then offered to relinquish my post but the University administration did not accept my suggestion. Since then I have repeated this offer several times but every time I was persuaded to stay on with the assurance that the University authorities would honour the agreement. I do not understand what has motivated the University to suddenly change its decision.

After stating that his lectures arranged by the University on two occasions (April 19 and October 8) were disturbed by a group of slogan-shouting students, Dr. Shrimali dealt with the allegations against him made in a memorandum submitted to him by the Secretary of the Akhila Bharatiya Vidyarthi Parishad in the presence of the Vice-Chancellor. Referring to the charge that he was against Mr. Jayaprakash Narayan, Dr. Shrimali said "If you read 'JP's' diary you will find that, between the lines, he has indirectly paid a compliment to me wherein he describes the circumstances under which my resignation from the Union Cabinet as Education Minister was accepted under the Kamaraj Plan. It is true that 'JP' and I have had some differences, but I trust this is permissible in a democratic society.

As for the allegation that Mr. Narayan was prevented from entering the Banaras Hindu University campus while he was Vice-Chancellor, Dr Shrimali said: "He used to visit the campus quite frequently as our guest and the University, under my Vice-Chancellorship, had the honur to confer the honorary doctorate degree on him. On only once occasion I requested him to postpone his visit since the University was closed after a midnight raid on my house by the students. Even then the University had made all arrangements for his reception."

Squint workshop organised at Aligarh

A Workshop on Squint was organised by Aligarh Muslim University Institute of Ophthalmology to highlight the year-long programme of the silver jubilee celebrations of the institute. Ophthalmologists from Assam, Madhya Pradesh, Gujarat, Tamil Nadu and U.P. participated in the workshop. Dr. A.M. Khusro, Vice-Chancellor, while inaugurating the seminar emphasised the importance of such workshops, specially in view of the alarming rate of increase in the diseases of the eye. He expressed the hope that the Institute would soon be converted into a Regional Institute of Ophthalmology. It would then be in a position to play a more significant role in the service of humanity.

Prof. B.R. Shukla, Director of the Institute, pleaded for organising seminars and workshops on squint which had remained neglected so far. In a forceful appeal he urged the participants to carry the fruit of knowledge to the remotest corner of the country in order to arrest blindness at the early stage.

Dr. J.M. Pahwa, Chief Medical Officer of the Gandhi Eye Hospital, speaking on this occasion said that due to the importance of Orthoptics the subject had been recognised as a sub-speciality.

Earlier, Prof. Hamida Saiduzzafar, Head of the Department of Ophthalmology threw light on the progress achieved by the Institute during the past twenty five years.

Dr. B.S. Goel, under whose active supervision the workshop was organised, gave an account of the work done during the course.

Unani books donated to Kashmir Varsity

Dr. Ali Mohammad Mattoo, Dy. Superintendent, Government Women Hospital, Srinagar presented about seven hundred books on Unani and Ayurvedic medicine to the Vice-Chancellor of Kashmir University, Shri R.H. Chishti. The gift includes studies on unani medical science by Avicina, the greatest medical scientist of his times and a dozen rare manuscripts. The books would be of great use to researchers of medicine. Shri Chishti thanked Dr. A.M. Mattoo for his valuable donation to the university and hoped that this gift would be followed by more donations from other persons.

Computer in everyday life

The Aligarh Muslim University recently organised a series of lectures on "Computer in Every Day Life". It was a three day course and the participants were given an opportunity to visit the computer centre of the university and observe its working. The programme forms part of the general evening courses which are being organised by the university for the benefit of the students and the community.

Bhopal school of life sciences

Dr. S.V. Ganpati has been appointed as Visiting Professor in the School of Biological Sciences, Bhopal University under the U.G.C. scheme of Visiting Faculty. This arrangement will help the newly formed School of Biological Sciences to come up rapidly.

High energy workshop held at Jammu

The High Energy Physics group of the Postgraduate Department of Physics of Jammu University organised a workshop from October 3 to October 14, 1977. This was sponsored by the University Grants Commission. Twentyseven Physicists from different parts of the country participated in the workshop. These included scientific workers from the University of Madras, Utkal, Banaras, Jadavpur, Calcutta, Delhi, Punjab, Kurukshetra, Tata Institute of Fundamental Research, Bombay and ten local colleges and university teachers.

The participants presented papers and a series of review talks on research topics of current interest were held. The review talks were on the following topics: Phenomenology in multiparticle interactions, Anti-nucleon-nucleon interactions, Neutrino Physics.

The deliberations of the workshop were extremely useful and the members of the High Energy group of this department have been benefited very much from the same.

INDIAN SCHOOL OF MINES
DHANBAD-826004

Advt. No. 420032/77 . **Dated October 28, 1977**

The Indian School of Mines, which is deemed to be a University under the University Grants Commission Act, invites applications for the undermentioned posts relating to

ELECTRONIC INSTRUMENTATION

to assist in offering an industry-oriented Advanced Diploma course in Mining Electronics and Instrumentation, and to develop facilities in repair and maintenance in the field:

Two Senior Technical Officers	(Rs. 1100-1600)
Two Senior Technicians	(Rs. 650-1200)
One Senior Technical Assistant	(Rs. 550-900)
One Technical Assistant/ Skilled Technician	(Rs. 425-700)

Besides pay, ISM employees get allowances as admissible to Central Government employees. Total emoluments at the Rs. 1100/- stage currently come to Rs. 1403/-, at the Rs. 650/- stage to Rs. 890.50, at the Rs. 550/- stage to Rs. 763.50 and at the Rs. 425/- stage to Rs. 590.30. Higher initial salary may be granted to specially qualified and experienced candidates.

Age: Normally not more than 30 years in case of TA/Skilled Technician, and 35 years for other posts.

Further details and prescribed application forms are obtainable from the Registrar, Indian School of Mines, Dhanbad-826004 on sanding a self-addressed envelope of size, 30 cm × 12 cm, affixed with postage stamps of the value of Rs. 2.65 only. Completed application forms should reach the undersigned on or before **30th November, 1977.**

CANVASSING IN ANY FORM WILL BE TREATED AS A DISQUALIFICATION.

S.K. BORDIA
REGISTRAR

INDIAN SCHOOL OF MINES
DHANBAD-826004

Advt. No. 420034/77 **Dated Nov 3, 1977**

ANNOUNCEMENT OF FACULTY POSITIONS

I. The following vacancies exist at the Indian School of Mines—a 'deemed University' under the University Grants Commission Act, 1956:

1. **Five Professors:** One each in Mech Engg, Drilling Engg, Mining Machinery (all in the Deptt of Engg and Mining Machinery), Engg Geology (Deptt of App Geology) and Mine System Design (Deptt of Mining Engg).

2. **Three Assistant Professors:** One in Industrial Relations (for the Deptt of Industrial Engg and Mgt), One in Instrumentation (Deptt of Electronics and Instrumentation) and one in English (Deptt of Humanities and Social Sciences).

3. **Six Lecturers:** Two in Mining Engg (for the Deptt of Mining Engg) One in Mechanical Engg (Deptt of Engg and Mining Machinery), One in Geology (Deptt of Applied Geology), one in Mathematics (Deptt of Physics and Mathematics) and one in Electronics (Deptt of Electronics and Instrumentation).

Except the posts of Asstt Professor in Industrial Relations (which is currently a temporary vacancy) all posts are either permanent or likely to become permanent in due course. All appointments to the post of Professor would be made on a 5-year tenure basis in the first instance, subject to the usual 2-year probation.

Pay Scales and Upper Age Limits

Professor: Rs. 1500-60-1800-100-2000-125/2-2500 (50 years)
Asstt Professor: Rs. 1200-50-1300-60-1900 (40 years)
Lecturers: Rs. 700-40-1100-50-1600 (35 years)

Allowances admissible as per Government of India rules sanctioned from time to time. Total emoluments currently amount to Rs. 969/- at the Rs. 700 stage, Rs. 1503 at the Rs. 1200 stage, Rs. 1803 at the Rs. 1500 stage and Rs. 2203 at the Rs. 1900 stage.

Upper age limit relaxable in respect of certain categories and persons otherwise considered specially suitable.

II. Specialising in the field of earth sciences and mining technology, Indian School of Mines conduct two B. Tech programmes (in Mining Engg and Petroleum Engg), two M.Sc. programmes (in Applied Geology and Applied Geophysics) as well as three M. Tech programmes (in Mining and Mine Planning/Opencast Mining/Mining Machinery), two DISM/M. Tech. programmes (in Mineral Engg and Industrial Mgt), two post-graduate M. Sc. Tech programmes—one in Mineral Exploration and the other in Mining Geophysics. An additional M. Tech. programme (in Pet Prodn), on additional DISM/M. Tech. programme (in Fuel Engg), and two more M. Sc. Tech programmes (one in Engg Geology, and the other in Pet Expln) are expected to be started next year as also three (post-deploma level) Advanced Diploma courses in Mine Surveying, Drilling Engg, and Mining Electronics and Instrumentation.

The School also has an ambitious continuing education executive development programme (including about 40 courses per year), a strong R and D activity, and an approved scheme of institutional consultancy.

III. Information for candidates and prescribed application forms are obtainable from the Registrar, Indian School of Mines, Dhanbad-826004, on sending a self-addressed envelope of the size 29×12 cm affixed with postal stamps of the value of Rs. 2.70 paise. Application in the prescribed application form, complete in all respects, should reach the undersigned on or before **December 3, 1977**. Those in service are advised to apply through their employer (s).

CANVASSING IN ANY FORM WOULD BE A DISQUALIFICATION.

S.K. BORDIA
REGISTRAR

Specialised marketing management course

Addressing the valedictory function of "Specialised Marketing Management Course" organised by the Director, Small Industries Service Institute, Ludhiana in DAV College, Amritsar, Sardar Bishan Singh Samundri, Vice-Chancellor, Guru Nanak Dev University said "In the modern world, marketing plays an important role in the growth and development of an enterprise. Marketing management comprises analysis, planning, implementation and control of programmes designed to achieve sales targets with a view to profit maximization. Marketing management has become indispensable for survival and growth particularly in economies with rapid rate of technological and social change, intense competition and highly discriminating consumers. Marketing is aimed at generating customer satisfaction and goodwill and long-run customer welfare".

Insufficient demand, credit restrains, power shortage, financial vulnerability to market fluctuation, lack of balance in production planning and marketing and inadequacies of management were the reasons behind the widespread sickness of small scale units, he added. He said in spite of these difficulties the number of registered units had increased from approximately 1.4 lakhs in 1972 to about 5 lakhs in 1975-76. The output of these industries had increased from Rs 2062 crores to Rs 5700 crores and their exports from Rs 151 crores to Rs 600 crores over the same period.

S. Samundri was of the view that the Associations of Small Scale Industries should oversee their own affairs and persuade their members to take a long term view of the problem rather than adopting a narrow and self-defeating get-rich-quick approach. The real breakthrough, he added, would be achieved when the small scale units would rise to complete on their own without any governmental props. He also suggested some measures for increasing the efficiency and competitive power of small scale units.

In the end, he suggested that small scale sector should adopt a professional approach in management of their enterprises but it should be forwarded looking, keeping abreast of the latest technological and marketing trends abroad.

Social service by Pant Varsity students

A five-day National Social Service Programme was organised by the G.B. Pant University of Agriculture and Technology, Pantnagar in Dumka Bangar and Dhampur villages of Haldwani Block in Nainital district from October 31 to November 4, 1977.

Under the Social Service Programme, 51 B.Sc. Ag. students took up eradications of lantana, an obnoxious weed around a 3 km village road. They performed the work of cutting the weed and cleaning the road. During the second trimester which starts on November 16, 1977, the students will take up earth work and other activities related with the integrated rural development. A party of agricultural economists has already taken up the survey work to plan welfare activities for the alround development of the village.

An important feature of the programme is active participation of the village people. During a visit of the Vice-Chancellor, Dr. Dharam Pal Singh to the site the village people thanked the university for taking up the work in the village.

Advanced mining system course offered by Indian School of Mines

As a part of its extensive Executive Development Programme, ISM organised the (second) course on Advanced Mining Systems for Senior Mining Executives during October 10-15, 1977 at Hotel Oberoi, Darjeeling. The course provided ideal setting for very close interaction between faculty and the participants for discussing the latest developments taking place in Systems and Concepts of Mining the world over. The main objective of the programme was to consider the Mine as a Total System and to view its problems from larger and broader national perspectives.

The course attracted participants from diverse mining corporations like Bharat Coking Coal Limited, National Mining Development Corporation, Hindustan Zinc Limited, Central Coalfields Limited, and the Rajasthan Directorate of Mines and Geology—at the level of Deputy Chief Mining Engineers and General Managers. The faculty for the course was drawn, besides ISM, from the Bureau of Public Enterprises, M/s Coal India Limited, the Cementation Company Limited and M/s Indian Explosives Limited.

The course covered the technical developments and advancements in the underground coal and metal mines as well as opencasting mining, application of industrial engineering techniques to mining; geomechanical aspects of mine planning; environ-

INDIAN SCHOOL OF MINES
DHANBAD-826004

Advt No. 420033/77 **Dated November 1, 1977**

Indian School of Mines, which is deemed to be a University under the UGC Act, wishes to recruit

A DEVELOPMENT OFFICER

in a permanent vacancy in the pay scale of Rs. 1100-1600 plus allowances as admissible to Government of India employees. Total emoluments currently payable at the minimum of the scale work out to Rs. 1403 only. Higher initial salary may be granted to specially qualified and experienced candidates.

Job Description: Mainly to assist the administration in

(i) introducing examination reforms and semester system; and
(ii) introduction of new academic programmes.

He will also be required to assist in the preparation of material for annual reports and other School publications, and in organising and providing secretarial back-up for meetings of Academic Council, Board of Research Studies, Examination Board, etc.

Qualifications

1. Master's Degree in Education/Sciences/Arts/Commerce/Administration or a Degree in Engineering/Technology, with not less than 60% marks. (Essential but relaxable in case of candidate otherwise considered specially suitable)
2. About six years administrative experience in an academic institution, etc., including about three years as Assistant Registrar (or equivalent position) dealing with management of academic and examination matters. (Essential)
3. Familiarity with the implementation of Semester System and Examination Reforms, and competency to draw up relevant rules, etc. (Essential)
4. Good drafting ability.
5. Experience of organising meetings and handling agenda papers and minutes. (Desirable)
6. Capacity to develop corporate life within an educational institution.

General

1. AGE normally not more than 40 years, relaxable in case of persons otherwise considered specially suitable and in respect of certain special categories.

2. APPLICATION in the prescribed form (obtainable, along with a set of General conditions from the Registrar, Indian School of Mines, Dhanbad-826004 on receipt of a self-addressed envelope of the size 30 cm × 12 cm affixed with postage stamps of the value of Rs. 2.65) should reach the Registrar on or before **26th November, 1977.**

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S.K. BORDIA
REGISTRAR

ment and ergonomics in mining industry; planning and execution of shaft sinking projects; management of safety; integrated approach to mining system; investment decisions and application of computers in mining as well as a Case Study.

Professor R. D. Singh and Professor S.K Bordia were the course coordinators; the course was inaugurated by Prof. G.S. Marwaha, ISM Director, who also led the session on Management of Safety.

This course is part of an extensive E.D. Programme developed by ISM over the past few years; this year the programme is expected to include nearly 25 incampus courses (covering a wide range of subjects from mine surveying, mineral engineering and petroleum technology to computer systems, linear programming and organisation development) and nearly 15 off-campus courses organised as far apart as Singareni, Goa and Khetri. That the activity is meeting a real need is borne out by the fact that some of the most successful courses are repeat efforts.

Indian Agricultural Universities Association to meet at Anand

The Executive Committee meeting of the Association was held in Krishi Bhawan, New Delhi on October 29, 1977. Vice-Chancellors of nineteen agricultural universities and representatives of Indian Council of Agricultural Research were present. One of the main topics discussed related to items for discussion at the next Convention of the Association to be held at Anand in January 1978.

The Association holds a Convention each year at which approximately five delegates from each university are represented. The Convention to be held in January 1978 will be the ninth in the series. The topics for discussion would be: Reorganisation and diversification of undergraduate education in the agricultural sciences; and Inter-institutional coordination of and collaboration in agricultural research in India.

Kashmir's continuing education programme

The University of Kashmir has started a continuing education programme. As the first step, the following three short-term courses have been organised: Home Science, Health and Nutrition, Interior Decoration.

About fortyeight persons have joined the courses, some of them having opted for two or even three courses. The programme is scheduled to be completed by the end of November, 1977. It was inaugurated by the Vice-Chancellor.

The aim of continuing education is to extend the benefits of education to the community at large, especially those persons who, for various reasons, have not been able to avail themselves fully of the facilities. It has been felt that the university should not confine its attention to whole-time students only but, to the extent possible, cater also, for those who are busy with various occupations. With the rapid growth of knowledge, even highly educated persons feel the need of bringing their knowledge and skills up-to date from time to time. Besides, there are people who feel that they have serious gaps in their education which need to be removed.

The university is, accordingly, planning to start courses of various types for men and women in different walks of life, for example, working classes, businessmen, housewives, teachers, doctors, engineers etc. The courses will, of course, be started according to priority of need, and will be spread over the next few years and are likely to develop into a massive programme in due course.

The three courses mentioned above are intended to benefit hosewives in particular and will be conducted by experts in their respective fields. Each course will consist of a series of lectures supported, where necessary, by demonstrations and practical work. For the convenience of the participants instruction will be imparted in the evening. No fees have been prescribed for joining these courses.

INSA elections

The Indian National Science Academy at its meeting held on October 15, 1977 re-elected Dr. R. Ramanna, Director, Bhabha Atomic Research Centre, Bombay as the President of the Academy. The other officers re-elected for the ensuing year are: **Vice-Presidents:** Prof. R.C. Mehrotra, Vice-Chancellor, University of Delhi; Prof. A.K. Sharma, Head, Dept. of Botany, Calcutta University. **Foreign Secretary:** Dr. A.R. Verma, Director, National Physical Laboratory, New Delhi. **Secretaries:** Prof. A.N. Mitra, Head, Dept. of Physics & Astrophysics, University of Delhi; Dr. M.G. Deo, Professor of Pathology, All India Institute of Medical Sciences, New Delhi. **Editors of Publications:** Prof. L.S. Kothari, Professor of Physics & Astrophysics, University of Delhi, Prof. K.N. Saxena, Head, Dept. of Zoology, University of Delhi.

Prof. B. Ramachandra Rao, Vice-Chairman, University Grants Commission, was elected Treasurer.

The members of Council elected are: Dr. F. Ahmad, Commissioner, Mines and Geology, Government of Jammu & Kashmir; Dr. D.P. Antia, Calcutta; Prof. A. Bose, West Bengal; Prof. J. Ganguly, Chairman, Dept. of Biochemistry and Head of Advanced Centre of Biochemistry, Indian Institute of Science, Bangalore; Dr. J.S. Kanwar, Associate Director, International Crops Research Institute for the Semi-Arid Tropics, Hyderabad; Dr. C.R. Krishna Murti, Deputy Director, Industrial Toxicology Research Centre, Lucknow; Prof. N. Balakrishnan Nair, Head, Deptt. of Aquatic Biology & Fisheries and Dean, Faculty of Science, University of Kerala; Prof. M.S. Narasimhan, School of Mathematics, Tata Institute of Fundamental Research, Bombay; Dr. Y. Nayudamma, Central Leather Research Institute, Madras; Dr. A.S. Paintal, Director, V.P. Chest Institute, University of Delhi; Dr. N. Parthasarathy, Madras; Prof. V. Puri, Professor Emeritus, Institute of Advanced Studies, Meerut University; Prof. C.N.R. Rao, Professor, Solid State & Structural Chemistry Unit, Indian Institute of Science, Bangalore; Prof. S.N. Sarkar, Head, Dept. of Applied Geology, Indian School of Mines, Dhanbad; Prof. G.P. Sharma, Dept. of Zoology, Panjab University, Chandigarh; Dr. K. Sundaram, Director, Bio-medical Group, Bhabha Atomic Research Centre, Bombay; Prof. S.K. Trehan, Professor of Applied Mathematics, Panjab University, Chandigarh; Dr. H.V.K. Udupta, Director, Central Electro-Chemical Research Institute, Karaikudi.

Prof. S. Deb, FNA, formerly Professor and Head, Geology Department, Jadavpur University Calcutta, will be the representative of the Asiatic Society, Calcutta.

Dr. B.D. Nagchaudhuri, will represent the National Academy of Sciences, Allahabad.

The Indian Science Congress Association, Calcutta will be represented by its General President, Dr. S.M. Sircar.

Dr. A. Ramachandran, FNA, Secretary, Department of Science and Technology will be representative of the Government of India.

Dr. B.P. Pal, immediate Past President of the Academy is also a member of the Council.

Bombay to have separate architecture faculty

A separate faculty of architecture will be instituted in the University of Bombay. After its constitution all the matters relating to the architecture curriculum will be handled by this body which will comprise students and teachers of the J.J. College of Architecture apart from the member of the senate and the academic council. The present ad hoc Board of Studies will be replaced by a regular board of studies and a special consultative committee will be formed for the board of studies consisting of four student representatives apart from the regular members. A new standing committee will also be constituted to look after the functioning of the J.J. College of Architecture.

Inadequate Library Services

Educational authorities and scholars have shown great concern over the fall in the standards of education—especially at the higher level, where facilities of equipment, books and journals, in the institutions are stretched to the breaking point. The failure rate at the first degree level is about 50 per cent. Further, 70 per cent of students who complete their post-graduate education in Arts and Commerce are placed in the third division and more than 40 per cent of successful students in the post-graduate examinations in sciences are placed in the third division.

One of the reasons for this state of affairs is the dearth of standard books and research journals (back as well as current issues) in the libraries, documentation and information services of most of the universities and the institutions of higher learning. For example, many university libraries, do not receive even 2,000 titles, whereas most of the university libraries in America, subscribe to 10,000 and odd current journals. It has been said that 'You cannot have a quality education without a quality library'. A library, considered an essential department of an educational institution, receives step-motherly treatment in the annual budgets of the institutions.

There has been a vast expansion of knowledge, mass communication and mass literacy. The advances in science and technology have led to a widening of the horizon putting increasing pressure on the libraries and information services. Scholars now look at libraries as centres for dissemination of knowledge. Many progressive librarians have started issuing at regular intervals 'Indexing and Abstracting Services' and 'Current Awareness Services.' The latest of these services is called the 'Selective Dissemination of Information (SDI), where profiles of individual scholars are matched against the new additions made in the information base of the library and pertinent information communicated to the respective scholars. For retrospective service, the entire information file has to be searched. If the information file to be searched is sufficiently large it has become necessary to use sophisticated computers for providing efficient SDI.

There is, therefore, need for quality personnel trained in the art and science of collecting, collating, organising and disseminating knowledge in the form and at the level required by the community they serve. These people have to be adequately rewarded for their services so that better qualified people would enter this profession and help improve the standards of education.

Many of the postgraduate departments in various institutions do not have well-equipped libraries and laboratories, to ensure excellence of teaching. With the result that the students who become teachers after completing their studies continue the outdated and ineffective teaching which they themselves had received as students.

The UGC pay commission has recommended substantially higher grades to attract better qualified people to enter the teaching profession. Librarians and other professionals who earlier enjoyed parity of grades with the faculty have been offered lower grades. Apparently, the authorities consider librarians as keepers of books, non-academic administrative staff and do not regard their services as important in the teaching process. This has demoralised the librarians and others engaged in the dissemination of knowledge. Apart from providing adequate finance to enable institutions to acquire best publications, coming out in increasing number year after year, these services have to be manned by professionally qualified people. Their quality of service is likely to be affected adversely in the absence of any improvement in their grades service conditions, status and working environments. In addition to providing parity of pay grades with the faculty, it is imperative to focus attention on their service.

Mohan Bhatia
Centre of Studies in Science Policy,
School of Social Sciences,
Jawaharlal Nehru University,
New Delhi.

THESES OF THE MONTH

A list of Doctoral Theses Accepted by Indian Universities

PHYSICAL SCIENCES

Mathematics

1. Chattopadhyay, Amaresh. Some problems on elastodynamics. Visva-Bharati.

2. D.B. Singh. A study of certain normalized univalent and multivalent functions. I.I.T., Kanpur.

3. Venkatasiva Murthy, K.N. Magnetohydrodynamic viscous stratified flow. Sri Venkateswara University.

4. Waghmare, Bhimrao Baburao. Studies in thermodynamics and shock waves. Shivaji University.

Physics

1. Bhalerao, R.S. Nuclear-structure studies via non-radiative free—and bound-pion absorption reactions. I.I.T, Kanpur.

2. Chattopadhyay, Susanta Kumar. Study of thermal diffuse scattering of X-rays from organic crystal. University of Burdwan.

3. Das, Kali Charan. Axially symmetric space-times in general relativity. University of Burdwan.

4. Deshmukh, Dattatraya Digambarrao. Elementary excitations in solids. Marathwada University.

5. Kusaraju, Gubbala. Studies on the compton and photoelectric interactions of low energy photons. Andhra University

6. Mishra, S.G. Thermal properties of nearly and weakly ferromagnetic fermi systems: Spin fluctuation effects. I.I.T., Kanpur.

7. Moharil, Sanjiv Vasantro. Nature of defects produced in alkali halides coloured in an electrodeless discharge. Nagpur University.

8. Navaneethakrishnan, K. Theoretical investigations on impurity states in elemental semiconductors. Madurai University.

9. Raman, T. Mossbauer effect studies in alkali borate glasses. I.I.T., Kanpur.

10. Ravindranath, K. Normal coordinate analysis of molecules and spectroscopic studies of H-bonding. Osmania University.

11. Sarma, Chaturvedula Rama Narasimha. Electron paramagnetic resonance studies of some copper complexes. Andhra University.

12. Satyendra Prasad, Mokkapati. Studies on the elastic scattering of low energy photons. Andhra University.

13. Venkataramanamurthi, Desiraju. 35 CL NQR investigations in certain molecular crystals. Andhra University.

14. Verma, Neelkanth. To study electrical and optical properties of sodium bromate and sodium chlorate crystals in detail. Ravishankar University.

Chemistry

1. B.P. Singh. Isoprenoids: Rearrangements and synthesis. I.I.T., Kanpur.

2. Balasubramanian, V. Chlorination with chloramine—T: A kinetic and mechanistic study. University of Madras.

3. Bhand, Madhukar Dharma. Electrical and optical properties of some electroluminophors. Shivaji University.

4. Devadasan, G. Studies in the chemistry of ziroconium compounds. University of Kerala.

5. Durai, V. Electric dipole mements, dissociation constants, and electronic absorption spectra of some 4-alkylsulphonylanilines. University of Madras.

6. Dwivedi, K.K. Studies on heavy ion tracks in solid dielectrics. I.I.T., Kanpur.

7. Goswami, Pannalal. Synthetic studies on sesquiterpenoids. University of Calcutta.

8. Malhotra, Ramesh Chandra. Studies in the oxidation of some hydrazides and hydrazens with active manganese dioxide. Jiwaji University.

9. Misra, Chittaranjan. Synthetic studies on terpene alkaloids. University of Calcutta.

10. Misra, Devendradutt. Studies on anion-exchange selectivities in acetone-water medium. Jiwaji University.

11. Muraleedharan, P.R. Studies on absorption of high polymers. Sardar Patel University.

12. Patel, Jitendrabhai Chhotabhai. Study of Polymerization by Friedel-Crafts reactions. Sardar Patel University.

13. Patel, L.N. Studies in corrosion of 2-5 aluminium alloy and its inhibition. Gujarat University.

14. Patel, Rajnikant Muljibhai. Studies on polymeric resins: The condensation of aromatic hydrocarbons and formaldehyde. Sardar Patel University.

15. Ramasesha, S. Monte Carlo simulation of ising chains and polytypes and low spin-high spin transitions in solids. I.I.T., Kanpur.

16. Shukla, P.N. Distribution of nitrogen and lithium in samples of moon, meteorites and tektites. I.I.T., Kanpur.

17. Sivasankara Pillai, V.N. Electrometric titrations using some halogen bearing organic compounds as oxidimetric titrants in non-aqueous or partially aqueous media. University of Kerala.

18. Sundaravelu, T. Electric dipole moments, dissociation constants and electronic absorption spectra of some 4-alkylthionilines. University of Madras.

19. Suryanarayana, Iragavarapu. Spectroscopic studies of the influence of solvents on the stabilities of intramolecular hydrogen bonded systems. Osmania University.

20. Tiwari, Mahadeo Prasad. Role of pH and related factors in the liquid-solid absorption and chromatography of dyes. Ravishankar University.

21. Vyas, M.H. Studies on recovery of Lithium and Boron salts from indigenous resources. Gujarat University.

Earth Sciences

1. Ghosh, Alok Kumar. Structures along the central part of the Singhbhum shear zone and their relation to metamorphism. University of Calcutta.

2. Madhavan Nair, K. Sedimentology of corbonates in Cauvery Basin. Osmania University.

3. Sarma, Vinnakota Venkata Rama. Sedimentation in North Godavari coal field, Andhra Pradesh. Osmania University.

4. Srisailanath, A. Groundwater investigations by electrical resistivity methods in granitic terrains of Musi Ayacut Region, Nalgonda District, Andhra Pradesh, India. Osmania University.

Engineering & Technology

1. Abraham, M.C. Investigations on the kinetics of reduction of ferric oxide with graphite. I.I.T., Kanpur.

2. Chattopadhyay, Sanjit Kumar. The scintillation of satellite beacons in the equatorial ionosphere. University of Calcutta.

3. Gairola, B.K. Implementation of relational database: An integrated approach. I.I.T., Kanpur.

4. Gangopadhyay, Gautam. Some pole assignment algorithms and their application in linear system design. University of Calcutta.

5. Krishna, S. An approach to software reliability evaluation through programme testing. I.I.T., Kanpur.

6. Narayana Rao, Yarlagadda Surya Prakasa. Study of the effect of freely rotating promoter on heat transfer and pressure drop in pipe. Andhra University.

7. Raghavan, K.S. Finite element studies on inelastic response of beams and plates. I.I.T., Kanpur.

8. Ray, Tushar Kanti. Study on the mechanism of fatigue failure in some F.C.C. and H.C.P metals. University of Calcutta.

9. Yadav, Dayananda, Response of moving vehicle to ground induced excitations. I.I.T. Kanpur.

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Biochemistry

1. Rane, Dhananjaya Kautikrao. Biochemical changes in sterilised milk. Marathwada University.

2. Saxena, Arvind Kumar. Studies on the fatty acid synthetase complex and lipid metabolism in lactating buffalo mammary gland. Punjab Agricultural University.

3. Sharma, Ashwani Kumar. Metabolism of erucic acid in tissues of female rats. Punjab Agricultural University.

Botany

1. Giridhar, G. Invitro and invivo studies on the origin of some chloroplast protein in the C_4 plant, Sorghum vulgare. Madurai University.

2. Majumdar, Gita. Studies on floral morphology and cytology in relation to taxonomy of the family Euphorbiaceae. University of Calcutta.

3. Nayak, Anik Kumar. A study of mineral circulation in some forest trees with special reference to teek, Tectona grandis Linn. University of Saugar.

Zoology

1. Babu, K. Arbindo. Cytogenetic and cytochemical studies on cells. Gujarat University.

2. Buch, R.P. Studies on some aspects of mamalian testicular and epididymal physiology. Gujarat University.

3. Chauhan, Ramesh Chander. Studies on the caudal neurosecretory system in teleosts. University of Indore.

4. Dasharatham Goud, J. Population genetics of five endogamous tribal groups of Andhra Pradesh. Osmania University.

5. George, Jacob. Studies on planktonic ostracods of the Northern Indian Ocean. University of Cochin.

6. Hota, Hemanta Kumar. Haematology of common Indian garden lizard. University of Calcutta.

7. Jeyaraman, S. Modulation of humoral and cell-mediated responses to sheep erythrocytes in the lizard, Calotes versicolar. Madurai University.

8. Mahammad Samsul Haque. Studies on plant parasitic nematodes of West Bengal. University of Burdwan.

9. Muraleedharan, D. Studies on some aspects of digestion in Dysdercus cingulatus. University of Kerala.

10. Natarajan, V. Studies of certain biological aspects in assessment of the fisheries of the chilka lagoon, Orissa, India. University of Calcutta.

11. Padma. Studies on histochemical, biochemical and physiological aspects of paramphistomum. Osmania University.

12. Paul, Ravindra. Studies on the Porcellanidae (Crustacea, Decapoda, Anomura) of the Karwar Area. Karnatak University.

13. Soni, V.C. Feeding and locomotory adaptions in birds, Family Phasianidie. Gujarat University.

14. Umadevi, Dommeti Venkata. Copepod parasites of marine fishes of Andhra Coast including some aspects of histochemistry. Andhra University.

Agriculture

1. Mallick, Bikram. A study on adoption behaviour of farmers in Orissa towards improved method of potato cultivation. Orissa University of Agriculture and Technology.

2. Parkash Kumar. Estimates of combining ability and stability parameters in Pearl millet, Pennisetum typhoides (Eurm) Stapf and Hubb. Haryana Agricultural University.

3. Ram Autar Singh. Studies on Helminthosporium S.P.P. occurring on graminaceous hosts with special reference to those occurring on wheat in India. Bihar University.

4. Suresh Kumar. Studies on the production problem of tomatoes, Lycopersicon esculentum Mill during summer season. Haryana Agricultural University.

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1. Asit Kumar. Studies on cultural, serological and biological characters of food poisoning strains of Clostridium perfringens type A. Haryana Agricultural University.

2. Ravindra Kishore. Pharmacodynamic and toxicologic studies of indigenous plant Kalanchoe intergra. Haryana Agricultural University.

3. Zombade, Shivajirao Shankarrao. Studies on the relationship between biological and laboratory methods of protein quality evaluation. Punjab Agricultural University.

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1. Rajalakshmi, R. A study on the motivational factors in limiting the size of the family. University of Madras.

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UNIVERSITY NEWS, NOVEMBER 16, 1977. Regd. No. R. N. 7180/63 Postal No. D. (C) 534

JAMIA MILLIA ISLAMIA

Jamia Nagar, New Delhi-110025

Advt. No. 13/77-78

Applications on the prescribad form, which can be had from the Registrar's Office on any day (except Sunday and Holiday) between 9.00 a.m. to12.00 noon or by sending self addressed and duly stamped (25 paise) envelope of 10x23 cms., are invited alongwith postal order of Rs. 3/- for the following post so as to reach the Registrar by 1.00 p.m. on **December 5, 1977.**

Adequate knowledge of Urdu and Hindi is a desirable qualification.

D.A., C.C.A. and H.R.A. will be given as per Jamia rules.

Relaxation in any of the qualifications may be made on the recommendation of the Selection Committee in exceptional cases.

Principal (Grade:. Rs 1500-2500). Teachers' College

A high second class Bachelor's degree; a first or high second class Masters degree of an Indian University or an equivalent foreign qualification; a doctorate degree or published work of an equivalent standard and independent published work of high standard in addition to the published work referred to above; at least 5 years experience of teaching Hons./Postgraduate classes, or 10 years experience of teaching under-graduate classes and 5 years administrative experience.

Free unfurnished accommodation will be provided subject to the payment of their own electricity and water charges.

IMPORTANT

Applications without attested copies of mark-sheets, certificates, degrees, diplomas or without Postal Order and on plain paper will not be entertained.

Dated : **12.11.1977.** **Zamir Hasan**
OFFG. REGISTRAR

* * *

PUNJABI UNIVERSITY
PATIALA

Advt. No 158/PRO/Estt./ A/1/77

Applications are invited for appointment to the post of Registrar in the pay-scale of Rs 1100-50-1300 EB-60-1600 (likely to be revised to Rs 1500-2000):

Qualifications

Candidates should hold at least a second class Master's degree from an Indian University or should possess equivalent qualifications from a foreign University with at least ten years' experience in a highly responsible position in a University/Educational Institution or Government office. Persons with experience of University administration will be preferred.

The Selection Committee might relax the qualifications and experience in the case of a candidate of exceptional merit. It would be open to the Committee to consider even those who have not applied for the post.

Appointment to this post will be made for a term of four years or upto the age of 60 pears, whichever is earlier. Higher start within the grade admissible depending upon the ability and experience of the candidate. Free unfurnished accommodation will be provided at the University Campus. Dearness allowance, Provident Fund and Medical facilities admissible according to the University rules.

Applications complete in all respects on the prescribed form accompanied by a crossed postal order worth Rs 5/- (Rs 2/- for candidates belonging to Scheduled Castes/Tribes and Backward classes) drawn in favour of the Registrar, Punjabi University, Patiala, should reach the University by **November 25, 1977**. The forms can be had from the Superintendent (Establishment) by sending a self addressed envelope of the size of 23x 10 cms stamped with 25 paise postage.

Persons already in service should apply through proper channel. Government servants who are not in a position to submit their applications through proper channel before the due date should submit an advance copy before the due date and regular applications through proper channel by **November 30, 1977.**

P. K. Kapoor
REGISTRAR

* * *

INDIAN INSTITUTE OF TECHNOLOGY
KHARAGPUR

Advertisement No. R 27/77

Applications are invited for the temporary post of ASSISTANT PROFESSOR for the Research Scheme 'Studies on Electromagnetic Scattering and target identification' sponsored by the Department of Electronics, Government of India, tenable in the Radar and Communication Centre, I.I.T., Kharagpur (West Bengal):

The post is purely temporary during continuance of the research scheme.

Scale of pay: Rs. 1200-50-1300-60-1900 plus D.A. as admissible.

Age: Preferably between 30 and 45 years.

Qualifications & Experience

Essential: Master's degree in Electronics and Electrical Communication Engineering or equivalent with Doctorate degree in microwave antennas or in related field such as electromagnetic scattering diffraction of radio waves etc. with a minimum of 5 years experience in research and/or teaching.

Desirable: (i) Publication in reputed journals. (ii) Experience in carrying out independent research. (iii) Corporate membership of recognised institution.

Application form may be had from the Registrar on request along with an unstamped self-addressed envelope of size 23 Cm x 10 Cm. Applications accompanied with an application fee **(non-refundable)** of Rs 7.50 (Rs 1.87 for SC/ST candidates) payable by means of crossed Indian Postal order to the Indian Institute of Technology, Kharagpur at Kharagpur-2 Post Office should reach the Registrar, I.I.T., Kharagpur by the **26th December, 1977.**

* * *

INDIAN INSTITUTE OF TECHNOLOGY
KHARAGPUR

Advertisement No. R 28/77

Applications are invited for the undermentioned posts at the Indian Institute of Technology, Kharagpur (West Bengal).

Posts: a) **Professor (Electrical Engg. Deptt.)**

b) **Professor (Curriculum Development)** Electrical Engg Deptt. -**Post Temporary**

Scale of pay: Rs 1500-60-1800-100-2000-125/2-25000 plus D.A. at admissible rates.

Age: Preferably below 50 years.

Qualifications

Essential

First class Master's Degree or Second class Master's Degree with Doctorate Degree in Electrical Engineering with a minimum of 10 years' experience in teaching at postgraduate level in an institution of University standard and research or development work, having specialised knowledge in one or more specified subjects.

Desirable

a) Research publications in reputed journals
b) Experience in guiding research
c) Ability to organise and develop laboratories in the specialised fields
d) Experience in planning and development of undergraduate curriculum in Electrical (for post (b)

Only capable persons with uniformly good academic career, aptitute for teaching postgraduate and undergraduate classess, Research and Development work need apply.

Application form may be had from the Registrar on request along with an unstamped self-addressed envelope of size 23 Cm. 10 Cm. Applications accompanied with an application fee **(non-refundable)** of Rs 7.50 (**Rs** 1.87 for SC/ST candidates) payable by means of crossed Indian Postal order to Indian Institute of Technology, Kharagpur at Kharagpur-2 Post Office should reach the Registrar, IIT, Kharagpur (West Bengal) by the **26th December, 1977.**

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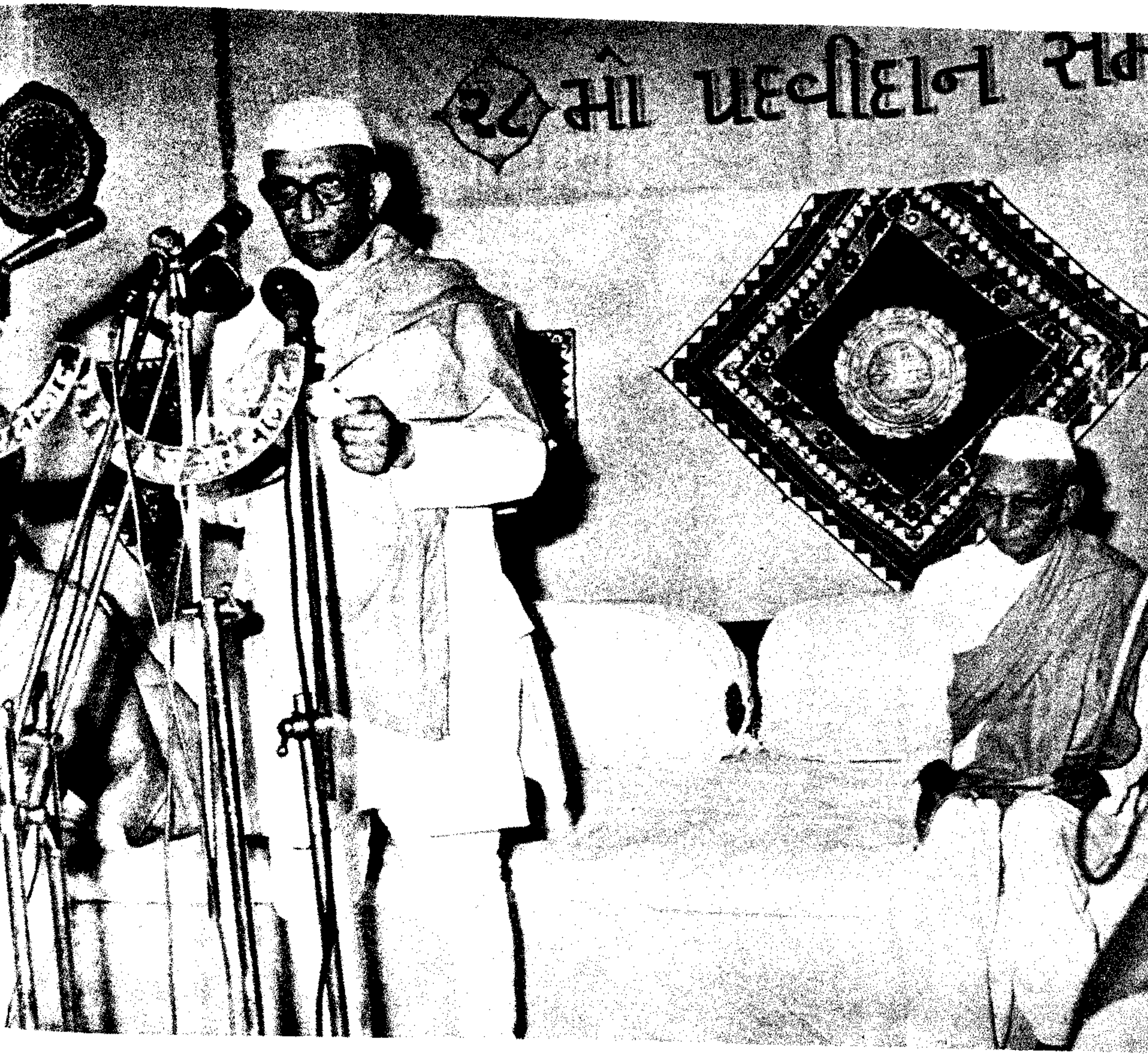
University News

A CHRONICLE OF HIGHER EDUCATION & RESEARCH DECEMBER 1, 1977 80 PAISE



hri Morarjibhai Desai, Chancellor of the Gujarat Vidyapith, delivering the convocation address at Ahmedabad.

UNIVERSITY OF JAMMU
JAMMU

Notice

Applications on prescribed form are invited for the following posts so as to reach the **Registry** on or before **December 31, 1977.**

1. Professors (Rs. 1500-1900) in
I. Organic Chemistry
II. Physics (Theoretical physics-phenomenology in High energy physics)
III. Geology (Sedimentology)
2. Readers (Rs. 1100-1600) in
I. Applied electronics
II. Punjabi
3. Coordinator in law (Rs. 1100-1600)
4. Lecturers (Rs. 700-1300) in
I. Mathematics: Modern Analysis (Real and Complex)
II. Hindi
III. Law
IV. Inorganic/Analytical Chemistry
V. Physics (High Energy/Solid State Physics)
VI. Botany (Limnology)
VII. Zoology (Limnology)
5. Scheme posts in Physics Deptt.
1. Reader: One: Rs. 1100-1600
2. Lecturer: One: Rs. 700-1300
3. Research Associate: One: Rs. 1000/1200/1400 p.m. Fixed depending upon qualification and experience.
4. Computer Programmers: Two: Rs. 500-30-800
5. Electronics Engineer: One: Rs. 700-1300

For full details and prescribed application forms, please apply by sending a self addressed envelope of 25 CMS and 10 CMS. Size Bearing stamps worth Rs. 1.50 Paisa alongwith a crossed postal order for Re. 1/- drawn in favour of the Registrar, University of Jammu, Canal Road, Jammu Tawi-180001, J&K State, cashable at Jammu Post Office.

O.P. Sharma
DEPUTY REGISTRAR (ADMN)

* * *

JADAVPUR UNIVERSITY
CALCUTTA-32

Corrigendum Employment

Notification No. A2/C/3/77.

Reference above notification add "Applied Mechanics" to the fields of specialisation for the post of Professor of Mechanical Engineering.

REGISTRAR (Offg.)

* * *

THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA

Notification No. 11

Applications are invited for the following posts in the prescribed application forms which will be available along with details of qualifications and specialisation from the undersigned on prepayment of Re 1 by means of crossed Indian Postal Order along with a self addressed envelope of 30 cms. × 12 cms. separately for each post.

(i) Professors of (1) Electrical Engineering, (2) Mechanical Engineering, (3) Civil Engineering, (4) Textile Engineering, (5) Chemical Engineering, (6) Pharmaceutics, (7) Geography.

(ii) Readers in (1) Electrical Engineering, (2) Applied Mathematics, (3) Textile Chemistry, (4) Pharmaceutical Technology, (5) Pharmacology, (6) Business Administration, (7) Law, (8) Child Development.

(iii) Lecturers in (1) Electrical Engineering, (2) Applied Mechanics, (3) Civil Engineering, (4) Mechanical Engineering, (5) Electrical/Mechanical Engineering (Part-time Degree Course), (6) Metallurgical Engineering, (7) Textile Chemistry, (8) Pharmaceutics, (9) Textile Engineering, (10) Applied Chemistry, (11) Business Economics, (12) Geography, (13) Banking, (14) Law.

Scales

(1) Professor : Rs. 1500-60-1800-100-2000-125/2-2500
(2) Reader : Rs. 1200-50-1300-60-1600-Assessment-60-1900
(3) Lecturer : Rs. 700-40-1100-50-1300-Assessment-50-1600

The applicants at the time of requesting for the prescribed forms should mention very specifically the post for which the forms are required.

Application forms will be available upto 5-1-1978 and requests for the same thereafter will not be considered.

The application forms should be accompanied by Crossed Indian Postal Order of Rs 7-50 and should reach the Registrar on or before **16-1-1978**. Candidates, if called for interview will have to come at their **own expense**.

All things being equal preference will be given to candidates belonging to Scheduled Castes and Scheduled Tribes.

K. A. Amin
REGISTRAR

* * *

BANARAS HINDU UNIVERSITY

Corrigendum to Advertisement

No. 8/1977-78-Item No. 2 for the post of Reader in Chemical Engineering (three posts)

The qualifications may be read as follows :

Qualifications Essential

(1) First or second class Master's Degree in Chemical Engineeering or an equivalant qualification. (2) Doctorate Degree and/or published work of an equally high standard in Chemical Engineering. (3) About five years experience in responsible position in teaching/research/industry. (4) a. Good knowledge of Computer aided Design of Chemical Plants and equipments/systems Engg. / simultation and optimization techniques (for one post). b. Specialisation in one or more of the following fields : Petroleum Refining Engg./Transport Phenomena/Unit Operations/Neuclear Engg. / Thermodynamics / Mass Transfer/Reaction Engg./Heat Transfer/Fluid Dynamics/Project Engg./Process Plant and equipment design/separation techniques Bio-Chemical Engg. (for two posts).

Corrigendum to Advertisement

No. 9/1977-78-Item No. 40 for the Post of Lecturer in P. S. M.

Note No. 3 will read as follows :

"The selected candidate will have to reside at Rural Health Centre, Chiraigaon as per requirements of service. Available University accommodation will be provided. In case of non-availability of quarter, the candidate has to make his own arrangement within 2 km. radius of the Centre."

* * *

UTKAL UNIVERSITY

Advt. No. ESTT. I/22864/77

Dt. 19. 11. 77

Applications are invited for the post of Principal-cum-Professor for the M. S. Law College, Cuttack.

Qualification

1. The candidate shall have :
   i) A good academic record with a first or high second class master's degree in the subject.
   ii) Doctorate or adequate research experience.
   iii) Capacity for conducting and guiding a research work and undertaking P. G. teaching in Law.
   iv) Shall have ten years teaching and/or professional experience at the bar, at a High Court or higher level out of which at least 5 years should have been in teaching.

Scale of pay

Rs. 1500-60-1800-100-2000—125/2 2500/-

Seven copies of application forms shall be supplied to the candidates from the office of the undersigned in person on payment of Rs. 7.00 (Rupees seven only) or by post on receipt of a Crossed Indian Postal Order for Rs 8.50 paise payable to the Registrar, Utkal University, Vani Vihar, Bhubaneswar. No money order will be entertained for the purpose. The last date of receipt of applications for the posts is **20. 12. 77.**

Other details can be had from the University Office along with the application forms.

REGISTRAR

UNIVERSITY NEWS

Vol. XV No. 23

DECEMBER 1 1977

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Price 80 Paise

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Opinions expressed in the articles and reviews are individual and do not necessarily reflect the policies of the Association

Hony. Editor : ANJNI KUMAR

Higher Education and Contemporary Indian Society

S. N. Singh

The University, as a community of scholars engaged in “the pursuit of truth” was mainly concerned with the “transmission and extension of knowledge” with occasional preference for ‘Culture” and “Excellence”. It was not conscious of its relationship to the general purpose of society. The situation, however has changed after the Second World War. It is now generally felt that in addition to its traditional functions, the University owes certain obligation to society. Our expectations from the University have now increased. They are expected “to perform the role of the social critics, to act as the agents of social change and progress, and to lead the society to a better order by extending its knowledge and expertise beyond its four walls. The idea is that the universities should be “socially sensitive” and “relevant”.

The universities in this country, unmindful of their social functions, during the contemporary context, when the Indian society, under the stress and strain of multidimensional change, is being refashioned and restructured by an aggregate of deep penetrative forces, have remained bewildered and failed to make the correct option amongst different alternatives some of which are rather radical. Incapable of distinguishing the populist politics of right reaction and left adventurism, from the real issues, accepting the pressure of a microscopic section of politicalised youth, and miscalculating the interest of the urban educated middle class to be the national need, the real issues were allowed to be diluted.

The argument that the indecision about the finalization of national goals and the transitional state of polity in India are responsible for the “identity crisis” in the campus, holds no good ground, because “the university is not the microcosm of society, it is an academic community, with a historic exemption from full integration into the society, and having an autonomous position, in order to be able to fulfil its own responsibility which is to conduct untrammelled enquiry into all questions”. Its function was to point out the real goals to the society, because ‘its duty is not merely of response but of creation, it must not merely give society what it needs, but show it what it ought to need”. The university at present cannot afford to be insensitive and indifferent to its social climate. It has, however, to avoid becoming too much contemporaneous because this would make education superficial. Even the search for mere ‘usefulness’ and ‘economic values’ of education in the absence of broader social perspective is not going to cut ice as “to be always after seeking useful, says Aristotle, does not become free and exalted soul”.

Reader in Education, Banaras Hindu University

The function of the university is all inclusive: economic, social, political and cultural. It must provide right solution to the social crisis.

India, a poor country with rich and unexploited resources, has to solve enormous problems in her way of building an affluent but egalitarian social order. The shortage of trained manpower to manage certain areas of economy and simultaneous unemployment of educated youth denote the lack of rational coordination between our educational and economic planning. The bookish and theoretical nature of professional training, the unrealistic and archaic courses, and the adolescent and posterior equipments are responsible for the miserable performance of our graduates in actual working situations. This, however, has not been taken seriously by the Indian temples of learning. Only sterile seminars, which generate much heat but produce insufficient energy for real work have been organised, This fails to serve any useful purpose.

The professional education in India requires radical change. A well planned co-ordination between university, industry and agriculture is necessary for harmonising the demand and supply of manpower. No university can create jobs, they are created by the state and entrepreneurs. The best skilled man can remain out of employment in case the trained manpower is more than the existing job opportunities. Admission to professional courses should be made after the assessment of the requirements of various employment agencies. The present practice of "partial practical training programmes" should be given up and complete integration between theory and practice be achieved by bringing employment agencies and universities closer to each other and arranging exchange between professors and professional personnels. This is essential for breaking isolation of our technical and agricultural education and making it need used.

The productive activity and social climate are interdependent. In addition to the five factors, mentioned in the books of traditional economists, any efficient economy needs something more. It requires an atmosphere in which the worker can make his best performance. In a certain type of society and with a particular set of values and beliefs no workman can put his best in the task he is engaged. Certain values, and attitudes in our culture being inconsistent with an efficient economic system are not conducive to sufficient production. The imbalance between our productive and cultural system is creating different types of crises in economy to which our society has yet to find solution. In the absence of radical transformation in the philosophy of professional education and our attitude towards wealth and work, the crises can hardly be averted. However, little attention is being paid to this fact.

Instead of integrating knowledge and skill with the 'morality of work', our education has developed love for the system more and a style of easy going life among the graduates who lack the perspective of real issues in industry and agriculture : and with no commitment to society. Education, which they have received, has ill equipped them for understanding their social responsibilities and because of this unawareness they have become the tools in the hands of the vested interests. They may know their job well but they do not understand its social goal and implications. The attempt to solve this problem by including humanities and social sciences in the courses of technical education, as it has been done in the Indian Institutes of Technology, has hardly produced a commendable result. The gulf between technology and humanities should completely be bridged at the graduate level in these institutes. The postgraduate courses may afford to specialise in different disciplines. The scientist must know both: how to break the atoms and how to use them for the welfare of society. The university can play a positive role in humanising science, otherwise the cult of specialization would go on dehumanising the man. The university should aim at producing integrated personalities rather than narrow specialists who are well versed in this or that profession without sufficient social sensitivity. The lesson in this regard can be learnt from the Soviet Polytechnics.

Ours is a plural society. "The ramifications of its plurality extends to so many sectors of collective life that one might as well make a distinction and say that India is plural in the most comprehensive sense of the word. Sociologically, it comprises different strata of people living as contemporaries and a pattern of life that is widely divergent in its value structure, norm and behaviour. One wonders how different social entities belonging to different milieu, co-exist temporarily in the same political community. Ethnically, India is a country of man races which have been intermixing culturally and linguistically. There are well marked and almost defined regions and sub-regions where people speaking an alive language cherish the memory of their past grandeur and distinctive heritage with twin sentiments of alliance and discord with other contiguous regions in India. In terms of religious communities it includes seven major segiments : Hindus, Muslims, Christians, Sikhs, Jains, Buddhists and Parsis". Conscious of maintaining their separate 'identity' they resist any programme of nation building which touches their sensitivity, especially the religious and the linguistic and thus add further complications to the process of national integration. We forget our sense of nationhood during the periods of peace and normalcy and regain it only when there is an external danger or an emergenecy. In spite of a strong government at the centre armed with more constitutional powers in comparison to states, instances are not looking when nation's unity came across serious internal threats. The solution of the problem warranted intelligent guidance from the elite of the campus who, however, preferred to maintain apathetic silence.

In addition to the political measures, any programme for nation-building and national integration should include the abolition of regional imbalances and the socio-economic disparities, bridging the wide gulf between the rich and the poor, masses and the elite and the ruler and the ruled. The geeling of insecurity among the minorities, whether religious or linguistic, is to be removed. The myth that the culture and religion have sustained unity for ages in this sub-continent, in spite of political balkanization, has to be exploded from the minds of the intelligentsia because they are losing fast their hold upon Indian mind during the age of science and technology. The problems of the present day India are so complex and complicated that old prescriptions cannot eradicate the malody. In the absence of economic prosperity as well as equality, these factors would hardly prove to be of much help.

The universities in India can do a lot in this direction by reorganising its curriculum, teaching, research and extension work. The rewriting, and reinterpretation of India's history, with a view to promoting communal harmony with an emphasis on man's struggle against poverty, ignorance and obscurantism with proper stress on nation's composite culture and with a view to strengthening self-confidence in the masses, is essential. In place of communal and regional history, cultural and social history of the country is the need of the hours. After all, history is for the welfare of man and the nation. Its potentialities should, therefore, be utilised for the good of the country.

There are many deficiencies in the methods of teaching followed by our universities. The present practice, of giving "scraps of informations" in different disciplines having little to do with the central purpose of the subject itself, and filling the minds of the students with "inert ideas" which can neither be translated into concepts nor into useful "social actions", should be discontinued as it makes the man most useless bore on God's earth. The attempt should be made to utilise the formative potentialities of science and humanities for developing national consciousness. The university education is of no use if it does not develop common culture, beliefs, values, standards of citizenship, active comradeship, political awareness and desire for peace and take full precaution against the spread of ignorance, prejudice, superstition, narrowmindedness and passivity.

The attempt to transform Indian society into a planned, secular, socialist and democratic order, the British pattern, with a social system incoherent with its political system has not achieved much success. People's aspirations have grown higher and higher with each new slogan, however, the system has remained as static as it was. The development of extra parliamentary tendencies; indulgence in self-aggrandisement; opportunistic alliance on the part of political parties, the unmindful and sleeping elite; attempts to integrate political values of capitalism, socialism, feudalism and democracy in a single polity, has created an ugly scene. Pervasive corruption, even at the highest level, nepotism, economy of black money, wide gap between profession and practice and the "political permissiveness" have aggravated the crisis. The people have lost faith in the system, the system lost its validity, and the leadership has lost its credibility. However, the deities in the temples of learning remained undisturbed, and maintained stony silence. They did not think it proper to express their considered opinion on the issues of national importance. In its own interest the academic community should come out of its isolation and guide the nation, by co-ordinating its knowledge and expertise with the political leadership of the country. Such co-ordination is essential for removing inadequacy of the knowledge and expertise already available in the campus. But the interaction between the academic and political communities is yet to be achieved in this country. The lesson have again to be learnt from the Soviet experience.

A democratic socialist order with equal emphasis on individual freedom and social compulsion, requires certain special qualities in its citizens. The establishment of socialist society is fundamentally the development of new man. A high degree of the sense of participation in public affairs, vivic morality, self-control, commitment to ideology and social insight are some of the virtues that its members need most. The development of the individuality, in the traditional sense of the term, has no relevance to the contemporary context. In this respect, the responsibilities of the universities are quite heavy. They have to sort out the various issues that the society will have to face under this transformation. They have to find out ways of curbing the acquisitive tendencies of man and liberating his creative capacities.

The contemporary Indian society has to redifine the concept of liberty. Liberty, in the absence of the capacity for the mastery of the self, being neutral regarding values, without any restrictions, leaves one at the mercy of impulse. Man needs rational guidance, liberty alone will not be sufficient. Human beings need certain complementary virtues like reverence, tolerance and dutifulness without which more liberty degenerates into permissiveness and social indiscipline. The universities in India uptil now are pursuing the values of old liberalism which believes in the art of living with all the ailments of body polotique, without making clear to society that some kind of liberty is inconsistent with the new social order in spite of the fact that at least in this country liberty is being enjoyed more than their legitimate claim by a small minority. This, however, is a sign of great social malady. But no serious attention has been paid to this fact by the Indian campuses.

In spite of constitutional provisions for the equality of educational opportunity, the rural elite, the urban people and the middle and the upper classes which form the backbone of Indian social and political structures have monopolised the educational gains which have not yet reached the people living in villages, slums, tribal communities and other sectors which live below the proverty line. In the absence of social and economic equality, as it is in the case of India, legal and political equality tend to perpetuate inequality and strengthen privileges. Higher education in India has practically become an additional subsidy to small minority of "haves" and elites in spite of the fact that the rich and the poor sit together in the same class room. The equals are undoubtedly entitled for equal treatment provided other things are equal. But in case other things are unequal, equality becomes a matter of proportion. The students coming from the disadvantaged sectors, families and areas require preferential treatment for compensating deficiencies of "nature and nurture". An effective and planned programme for the removal of educational inequality should be worked out by the universities is collaboration with the state in order to enable the disadvantaged to get their rightful claim. The cause of injustice in fact, lies in society itself. There is pressing need for studying, understanding and finally altering the present unjust social order in India for which the lead should have come from the campus. This, however, is far from happening.

The increased facilities of education, transport, mass communication, agriculture and industry are bringing far reaching changes in the nature of rural and urban communities. The old institution and values which sustained life of these communities for generations are unable to meet the new requirements of life. However, the new ones are emerging at a very slow speed. The joint family, caste system, untouchability, social isolation and the status of women are undergoing transformation. Traditionalism is giving way to modernization which has shaken the self-respect and self-confidence of the modernised youth, in the effectiveness of his own culture, who now feels ashamed of his own social pattern of life. He has become to an extent, cutt off from his own soil, in some respects, though he sticks to the traditional values in respect of others. This situation has created a conflict within the culture itself and the illiterate masses have developed a suspicion towards the educated elite. This, however, is not a healthy trend. The passage from the traditionalism to modernity should be smooth and the universities have a special role to play in this process otherwise a cultural crisis is likely to be confronted which needs to be avoided.

The society in India needs modernization of its values and ways of life. The passive and misplaced sense of tolerance in India amounting to indifference and moral cowardice, the belief in man's destiny and divine arrangement of society, the mentality of other-worldliness along with hypocritic idealization of poverty, the defective attitude towards wealth and saving, the theory of Karma (action) of previous birth as the main determinant of the course of events in this life, the attitude towards the modern age (Kaliyuga as the age of degeneration) the individualistic concept of Moksha and Atmanubhuti (saluation from bonoage and self-realization) by means of Tapas and Samadhi, the theory of desirelessness leading to ascetic self-denial and the metaphysical neutrality between the good and the evil, with Sanyas (hermitage) as the ultimate stage of life falling beyond ethics, are some of the cultural constraints in the way of socialistic modernization of India. The attempt to transplant foreign cultural values or the blind imposition of the past, however, would hardly succeed despite certain people's for the reasons best known to them, remaining quite active in this direction. The university should undertake the task of reinterpretation of cultural values to meet the requirements of modern life. The Indian heritage has vigour and vitality also. It should be our endeavour to utilize them for the building of new India after making careful and considered selection.

A number of heterogeneous communities with strong religious traditions and with the determination of maintaining their separate identity exist in Indian secular state. Hinduism with its spiritual anarchism and colsed social system and Islam with its revealed creed and the universal brotherhood confined only to the believers create major problem for the polity. Secularism for us has become a policy of convenience without going deep into our mental culture. For the majority among Muslims, it is the over compensation of the sense of insecurity and for the majority among Hindus, it is hypocritical benevolence. Only a small minority has accepted secularism in its true sense. Moreover, in its attempt to remain equidistant to all religious, Indian secularism has fallen off its main track. For the state, it is only the policy of non-interference in sacred matters. The result is the perpetuation of inhuman, superstitious and obsurantic practices in almost all the communities. The state is shy, if not afraid of, enacting legislations for such social reforms as are expected to touch the religious sensitivity. Even high dignitaries of the Government perform religious ceremonies when they have to inaugurate something new. Indian secularism thus, has been reduced to compound communalism.

The way to secularise the country and bring speedy modernisation for her social structure for establishing a socialist society lies in giving up the present approach. The state may allow the freedom of religious practices but it cannot afford to allow its propagation. Religion cannot be permitted to stand in the process of social reforms. The state should boldly come forward and adopt an attitude necessary for the elimination of social evils, secularise educational and stop giving assistance to religious and communal institutions at all levels. To have a Hindu, a Muslim and a Sikh University in this country is nothing but a mockery of secularism. The universities which are autonomous bodies could take a lead in this matter by bringing radical changes in their curricular activities and working system. However, their own house is not in order. In the absence of non-religious and scientific culture and secular morality which our education has failed to develop in the country, communalism would remain prevalent in some form, open or disguided. The university in India should try to develop scientific attitude among its graduates, as the attempt to make an intellectual synthesis between various creeds has failed. The warning of history should be properly understood.

The development of scientific habit of mind, the forming of opinion after examining the evidences without bias, is an essential function of the higher education in country where superstition, fanaticism, obscurantism and prejudices have taken deep roots in national life. The universities, in this country are imparting scientific knowledge without inculcating the scientific habit of mind, and science has not been able to affect the mental culture of Indian youths. The result is that the scientific knowledge and superstition are simultaneously affecting our culture producing worst types of contradictions. Many of our national evils which are persisting since long would disappear if this attitude is developed. The

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Different Aspects of Paper Setting in a New Teachers Course

A. K. Gupta*

Follow up studies of examinations are almost non-existent in our country. This is especially true in the case of examinations for various courses conducted by Universities, Boards and other official bodies which are expected to be of "Good" or "High" standard by public at large even though many research studies have doubted their reliability, validity and sanctity.

The present paper reports the results of a follow-up study conducted at Model Institute of Education and Research, Jammu. The Institute has been conducting since 1975, a teacher education programme known as 'Post-Gradute Diploma in Education' which has been described as an innovation in the field by experts. The salient features of the course outlined by the Institute reveal that the P.G. Dip. Ed. Course has a very modern curriculum. It is highly research oriented and efforts have been made to evolve a new technology for correspondence education based on open-ended assignments and short answer questions. Since the Institute acts both as an examining and a certifying agency, a study of the standard of examinations on which no external evidence was available till now, was considered essential.

The need for eliciting external evidence was also necessitated because of two major reasons. Firstly, with the explosion of knowledge on one hand and with a constant expansion in the sphere of work opportunities on the other, the educational world is today witnessing a mushroom growth of educational courses offered by various agencies and centres of learning. It is, therefore, important to clear the doubts of prospective candidates and their well-wishers regarding the value and standard of the newly offered course. Secondly, innovations introduced in the field of higher education are doomed to die a premature death unless these are followed up and evaluated scientifically. Not only this, most promising of these should be brought to the notice of the academic world and officials so that patronage may be provided to them well in time.

Methodology

The present study happened to be a follow-up study of the paper setters appointed by the Institute to set papers for the final examination of the Post-graduate Diploma in Education Course (P.G. Dip. Ed. session 1975-76: first session). The twenty-one paper setters belonged to fourteen universities and researh institutes of India and included eight paper setters of the rank of Professor or equivalent. Nine paper setters were of the rank of Reader or equivalent while four were senior lecturers. All the paper setters had been approved examiners/paper setters for B.Ed./M.Ed. of more than one universities.

A sixteen item multiple choice opinionaire was specially prepared to elicit their responses on the various aspects of paper setting. This opinionaire was mailed to the paper setters. As many as ninteen paper setters responded (while two senior lecturers could not do so).

Results

The results are given below. The percentage of responses obtained in the case of each item have been shown in parentheses.

No. Statement

1. The paper which I set for the Final Examination of P.G. Dip. Ed. course was of the standard of:
   a) B.Ed. of Indian Universities (31.5 %)
   b) Higher than B.Ed. (63.15%)
   c) Lower than B.Ed (0%)
   d) M.A. (Ed.)/M.Ed. (5.26 %)
2. The course content from which I set the paper was:
   a) Very Modern (47.36%)
   b) Modern (52.63%)
   c) Traditional (0%)
   d) Very Traditional (0%)
3. The utility of subject matter of the paper is:
   a) Present oriented (0%)
   b) Future oriented (0%)
   c) It is equally important for the present as well as for the future (100 %)
4. The course content of the paper which I set for the Final Examination of P.G. Dip. Ed. Course was of the standard of:
   a) B.Ed./B.T/L.T (36.84%)
   b) Higher than B.Ed. (57.89%)
   c) Lower than B.Ed. (0%)
   d) M.Ed/M.A. (Ed.) level (5.26%)
5. For the examination of 3 hours duration the maximum number of short answer type questions to be answered was seven. Should this number be:
   a) Reduced (5.26%)
   b) Kept same (42.10%)
   c) Increased (52.63%)
6. I found the course content from which I set question paper as:
   (a) Very Comprehensive (42.10%)
   (b) Comprehensive (36.84%)
   (c) Just adequate (21.05%)
   (d) Inadequate (0%)
7. The directions for paper setting given to me were:
   (a) Very Comprehensive (15.78%)
   (b) Comprehensive (68.42%)
   (c) Just adequate (15.78%)
   (d) Inadequate (0%)
8. I found the setting of this paper in comparison to other similar courses as:
   (a) Very difficult (0%)
   (b) Difficult (73.68%)
   (c) Same standard (10.52%)
   (d) Less difficult (15.78%)
9. I was asked to set two papers at a time and I

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*Director (Research), Model Institute of Education and Research, Jammu.

think that it is better to ask the paper setter of a particular subject to set at a time:
(a) One paper (36.84%)
(b) Two papers (47.36%)
(c) Three papers (0%)
(d) Doubtful (15.78%)

10. The remuneration I got for setting this paper in comparison to the paper setting remuneration of other Institutions is:
(a) More (0%)
(b) Same (89.47%)
(c) Less (10.52%)

11. The time given to me for setting the paper was:
(a) More than Sufficient (5.26%)
(b) Sufficient (84.21%)
(c) Average (10.52%)
(d) Insufficient (0%)

12. While I was setting the paper, I visualised the candidate's basic qualifications as:
(a) Graduate (52.63%)
(b) Postgraduate (47.36%)
(c) Any other (0%)

13. The quality of instructions given to me for setting paper was:
(a) Similar to the instructions received from other Institutions/Universities (42.10%)
(b) Inferior than the instructions from other Institutions/Universities (0%)
(c) Better than instructions received from other institutions. (57.89%)

14. If an average student studying in B.Ed. class were asked to appear in the paper set by me, he would have secured.
(a) High Grades (0%)
(b) Average Grades (42.10%)
(c) Lower Grades (57.89%)

15. The mode of the payment of remuneration was:
(a) Very prompt (68.42%)
(b) Prompt (31.57%)
(c) Late (0%)
(d) Very Late (0%)

16. I have come across with such follow-up studies of paper setting in other universities.
(a) Always (0%)
(b) Occasionally (0%)
(c) Rarely (10.52%)
(d) Never (89.47%)

Conclusions

In the light of above results the following conclusions based on the modal value of the percentage of responses may be crystalised.

1. Standard of Paper

The standard of the P.G. Dip. Ed. papers is higher than the B.Ed. of Indian Universities.

2. Course Content

The course content prescribed for the P.G. Dip. Ed. Course is modern.

3. Utility of the Course Content

P.G. Dip. Ed. Course content is equally important for the present as well as future as per its utility.

4. Standard of Course Content

The course content for the P.G. Dip. Ed. Course is of a standard which is higher than the B.Ed. of Indian Universities.

5. Number of Questions to be attempted in a Paper

The number of questions to be answered in the examination in a paper should be increased from their present number (seven).

6. Comprehensiveness of Course Content

The paper setters in general found the course content from which they set papers as very comprehensive.

7. Directions for Paper Setting

The paper setters found the directions for paper setting as "Comprehensive".

8. Ease in Paper Setting

The paper setters found setting of the question paper for P.G. Dip. Ed. Course as compared to paper setting in similar course as "difficult".

9. Number of Question Papers

The paper setters felt that the number of papers to be set by them should remain the same (two).

10. Remuneration

The remuneration received by the paper setters for P.G. Dip. Ed. Course in comparison to the paper setting remuneration of other institutions was the same.

11. Time Period for Paper Setting

The paper setters described the time period allowed to them for paper setting as "sufficient".

12. Basic Qualification of Examinees

The basic qualification of the candidates for whom papers had been set was "GRADUATE" as visualised by the paper setters.

13. Quality of Instructions for Paper Setting

The paper setters felt that the quality of instructions for paper setting supplied to them (in the case of P.G. Dip. Ed. Papers) was better than such instructions received from the other institutions.

14. Equivalent Grades

According to the paper setters, if an average B.Ed. of Indian universities were to attempt the paper set by them for P.G. Dip. Ed. Course, he would have sesured lower grades.

15. Mode of Payment

The mode of payment of the remuneration to paper setters was described by them as 'Very prompt'.

16. Comparable Studies

According to the paper setters they had "never' come across with similar follow-up studies of paper setting by other universities.

Epilogue

The above results provide a convincing external evidence on the superiority of P.G. Dip. Ed. Course as compared to the B.Ed. of Indian Universities. Not only do the paper setters speak highly of the course content and of the standard of the papers, but also commend the directions for paper setting, the short question/answer approach in the examination, as well. The results obtained have corroborated to a large extent, the claims of the Institute regarding the Course and justify its continuation as an innovation with a promise in the field of teacher education—something which ought to attract official patronage and assistance on much wider scale before long. Lastly, the fact that the paper setters had rarely or never come across similar studies should serve as an eye-opener

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English Literary Research

S. M. **Chanda***

The new University Grants Commission scales which have been introduced with a laudable purpose—to attract really bright and earnest people to the teaching profession—have given rise to some disturbing tendencies in the world of our universities. That better scales of pay will be an inducement for qualified people to go in for education as a career is no doubt a good idea. To ensure a higher standard of competence, the UGC scheme requires teachers more or less at all levels to be people with research degrees. Up to this point it is all right. But trouble arises when the UGC scheme stipulates that university lecturers will not be entitled to increments if they do not qualify for research degree within a period of five years. Insistence of research degrees even for the purpose of annual increments will naturally incline teachers more and more to attach a sort of commercial importance to research, to treat research not as a disinterested pursuit of knowledge but as a formality to be complied with so as to cross a bar on the pay scale. It will encourage, not scholarly ventures or serious inquiries, but only seemingly academic exercises. Not all teachers are research-mined or have the necessary tenacity for such work and many of those who are temperamentally averse to it will now try to produce somehow, in the shortest possible time, such matter, with a profusion of quotations and footnotes, formidable in bulk, as may be passed off as doctoral dissertations. That this craze is at work becomes clear from a study of the topics on which research work has been started in recent months. The subject of research for a teacher of English at a particular university is, believe it or not, "Nirad Chaudhuri: his attitude and style". I don't want to discuss here Nirad Chaudhuri's merit as a writer, but what staggers me is that one seriously thinks of building up a Ph.D. thesis on this topic. There are, again, a good many young teachers who are planning to offer theses in English on Indian authors writing in their regional languages. This appears to me anomalous.

There is nothing wrong with a book in English on an author whose medium is some Indian language or on a literary movement is some zonal literature of India. Maybe there is an intelligent reading public for it. Indian authors of stature such as Tagore, Sarat Chatterjee and Buddhadev Bose have numerous readers among non-Bengalis in this country and also abroad. Such intelligent readers need and should be provided more and more with books written in English on Indian literature. But dissertations in English on Indian literature are an altogether proposition.

In many cases Indian scholars' doctorates obtained by means of dissertations on Indian zonal literatures are used as qualifications in support of their candidature for English teaching posts in universities. This happens with not only candidates for junior posts, lectureships, but also with aspirants for professorships. I know of a scholar who has been recently appointed a University Professor of English in consideration of his Ph. D. His doctoral work is commendable no doubt, but it is a thesis done on Gujarati poetry and has no bearing, even peripherally, on English literature.

It is in such meretricious work, research of doubtful relevance, that a number of our young college and university teachers are engaging themselves, and unfortunately it is a situation created to some extent by the new UGC scales and their requirements. "Dissertation or done for"—is now the slogan for teacher with the inevitable result that teaching proper, for which teachers are appointed, is being given the goby.

It is time for our educational planners to realize that research, however, important from the academic angle, does not necessarily help teaching in the classroom. Teaching and research are altogether different kinds of work, requiring different kinds of approach, their objectives and methods having little in common. A good research worker may—and often does—cut a sorry figure and a brilliant teacher may not have any original findings to offer. There are examples in this country of eminent teachers who could hold their classes spell-bound but did not contribute in any way to research activity. We need to remember the students' requirement: what is most important from their angle is a teacher's teaching skill, his ability to present his matter, within the limits of available time, in a persuasive way, not his glamorous doctorate degree. Unfortunately the tendency of most Selection Committees recommending persons for teaching posts is to dwell on the quantity and quality of candidates' publications without trying to assess their teaching ability. ☐

Higher Education and Contemporary Indian Society

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students would acquire a number of moral social virtues like open-mindedness, intellectual honesty, co-operativeness, impartiality, sense of justice and love for truth. The desirability of these qualities, from the social point of view, is self-evident.

To remain outside the active and partisan politics, to avoid excessive involvement in the day today life of the community, the disinterested pursuit of knowledge and a certain degree of detachment is essential for the health of academics. But academic impartiality and objectivity cannot be confused with social neutrality and insensibility. In the absence of social commitment and responsibility the academic community can become rootless, confused, and bewildered because its knowledge remains divorced from action. The universities should, therefore, use their knowledge and expertise for the welfare of society. ☐

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for universities and other examining and controlling agencies. It is strongly suggested that similar investigations shall be initiated in the field of higher education so that quality control should be enforced—something which is more or less absent in our educational evaluation. ☐

**Professor of Humanities, Regional Engineering College,*

Role of Pantnagar Farm Varsity

K. G. Gollakota

The Govind Ballabh Pant University of Agriculture and Technology established in 1960 is the first agricultural university of the country. It has come to enjoy the highest status and record of service among the farm universities in India.

The university has three well-established research centres viz. Crop Research Centre, Horticultural Research Centre and Livestock Research Centre and six constituent colleges namely College of Agriculture, College of Veterinary Sciences, College of Technology, College of Basic Sciences and Humanities, College of Post-Graduate Studies and College of Home Science.

The university has adopted a novel system of education involving fusion of teaching research and extension—the three tenets for an integrated approach to farm improvement.

The area of the activities of the university during last 17 years has increased manifold. With the initial enrolment of 250 students in 1960-61 the total enrolment has steadily risen to about 2,200 in 1977-78. The main emphasis has been on the improvement in quality of teaching—both in theory as well as in practice.

The university has 220 instructional days in a year which no other university in the country, has at present.

The admissions to this university are open to the students of all states and are done on merit alone. The university believes in the dignity of labour and therefore runs practical crop production, practical forage production and practical poultry production programmes.

The students are earning Rs. 150 to Rs. 200 per month under these programmes and thus providing a financial relief to their guardians.

A reference to the Practical Crop Production Programme of Pantnagar was made at the press conference of the Vice-Chancellors in July 1976 and it was enjoined that such programmes should be run in other agricultural universities.

New Technology

The university is running a number of schemes for rural development through dissemination of new technology. A strong extension service is being run which covers 19 districts of Uttar Pradesh. The team of the university extension workers posted in different districts conduct demonstrations on farmers fields to make the new techniques of agricultural production popular among farmers. Under the National Social Service which is a 3 credit programme, undergraduate students take up different agricultural works in the neighbouring villages.

Technology is changing very fast. The university feels that new fruits of research should therefore reach the farmers in shortest possible time. Keeping these facts in view the university organises All-India Farmers' Fair (Kisan Mela) twice a year in Rabi and Kharif seasons. These fairs are quite popular with the farmers which attract thousands of farmers from different parts of the country.

The university has established Farmers' Clubs in different districts to provide a liaison between the university and farmers. These clubs now cover the entire extension area of the university. For the farmers residing in remote rural areas, the university runs correspondence course in agriculture.

The university organises training programmes in agriculture for different categories of personnels. These include administrative and extension staff not only from different departments of Uttar Pradesh but other states also.

The university has the credit to train the personnel from the neighbouring countries like Nepal, Sri lanka and Bangladesh as well.

New Projects

In Uttar Pradesh, the hill districts represent an agro-climatic environment which is radically different from that obtaining in plains and Tarai and therefore, the biological material and production technology developed in plains and Tarai are not, in every case transferable for conditions in hills. Therefore, the university has established its new campus at Ranichapuri situated at an altitude of 4500-7000ft in Tehri district. The university runs two courses each year—first in kharif and second in rabi seasons.

A new programme of reclaiming and using the weed infested marshy, waste spots for composite fish culture is the latest addition to our projects. The experiments conducted at Pantnagar regarding composite fish culture using Indian major carps and exotic carps have given a record production of about 5000kg per hectare per year.

Integrated rural development, no doubt is the next step in the alround development of our villages. In this direction too, the agriculture universities have to take a lead. Initial work has already been started by the Pantnagar University in this direction. It has successfully run a pilot project on integrated rural development in Kumaon hills in the Bhikhiasen block of Almora district which has set an example for other agriculture universities. The project has provided a new outlook, a new enthusiasm and a new life to the rural community. Now the university is going to undertake one more project in Tehri district situated in hill region of Uttar Pradesh. The new responsibility of integrated development to agricultural universities will speed up the pace of progress which will ultimately bring rural prosperity and help to generate more employment opportunities in the rural areas. □

CONVOCATION

Crisis in Educational System

The educational system is under great strain and appears to falter in resolving its many dilemmas, but it would be wrong to write off its products as of little or no value. For all its inadequacies this very system has produced scholars and statesmen, scientists and technologists, and critics—including those who are so vociferous today in denouncing the futility of the educational endeavour. I am sure that many of you, in the years to come, will distinguish yourself in different walks of life, in varied fields of thought and action. Even the most celebrated academies are not known to have produced only geniuses on their assembly lines and some of the most creative leadership in the realms both of reflection and action has come from the products of relatively unknown institutions. Young universities like yours, not weighed down by hoary traditions, have an advantage in the sense that they have greater freedom and scope to experiment and to innovate. It is my hope that in the foreseeable future some of the graduates of this group will add lustre to their alma mater and win for Marathwada University a place of honour and distinction in the academic world.

For half a century and more the Indian educational system has been subjected to relentless criticism. It is incredible but true that despite all criticism the much despised system has continued to flourish. The alternatives have either languished and lingered somehow or for sheer survival they have sought incorporatton in the very system they were designed to replace.

Some of the crises that the educational system is facing today are inherent in its size, structure, and management. Given the will, bold initiatives and innovations geared to the rectification of its ills can produce results. But the difficulty is that courageous declarations of intent collapse in the face of popular demands and political exigencies. It is amazing that those who ridicule the system and miss no opportunity to chastise the students as well as the teachers, readily agree to lay the foundation stones of new educational institutions and to inaugurate them with great fanfare. Quantitative expansion is more visible and eye-catching than quiet consolidation of standards and the quest for quality and excellence. Little thought appears to be given to the structural incompatibilities, disharmonies and disincentives that are so characteristic of our educational structure. Tinkering with parts is attempted, but this cannot reform the whole. In any case, these half-hearted measures cannot remedy the situation because they fail to take accout of the extra-academic and the non-academic factors and forces that shape and control academic structures. Even the most sophisticated management guidance is unyielding because education is not a self-controlling organism; it is vulnerable, in a variety of ways and at many stages, to outside pressures. Innovative departures represented by some newly set up special purpose universities and institutes of higher learning are commendable, but it would be premature to rate them as true pace-setters. The costs involved in setting up these high-prestige institutions are so heavy that one cannot visualize their replacing the more conventional institutions in the foreseeable future. Secondly, they too do not seem immune to the viruses that afflict the traditional institutions. Some of them are already showing signs of wear and tear and are affected by the maladies of the older institutions. These problems cannot be wished away; though difficult, they are not intractable. What is important is to realize that they follow and do not precede more demanding issues implicit in the definition of the broader social objectives of education.

The contemporary educational system is criticized, and I think not without justification, for its elitism. Its products, in a considerable measure, do get alienated from manual labour and also from the masses in general. The shreds and patches of information that it offers do not relate directly to the society and its problems, but for the country's contemporary predicament it would be unfair to blame the educational system alone.

Education is a part of the larger social system. It is conditioned by the social ethos and by the powerful political and economic currents operating in the society. The shaping of young minds is not exclusively the function of the formal educational system. The family, peer groups, the community, the mass media, and the general cultural climate also contribute significantly to the process. The educational system has often to swim against the tide; invariably the prevailing idiom triumphs. Education is left with the poor consolation that it did all it could to promote some cherished ideals, which failed to made an impact however as powerful winds were blowing against them. In a

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Excerpts from the convocation address of Shri S. K. Dube, delivered at Marathwada University, Aurangabad.

society whose reward system prizes material possessions and encourages consumerism, the emphases on austerity and self-denial notwithstanding, the educational system can at best create only an awareness of the need for a social ethic. Where the tenor of life is highly competitive, the educational system cannot really be expected to promote successfully the ideal of cooperation and harmony. When moral values are so distorted that self invariably gets placed before society, it would be unrealistic to expect education to produce the miracle of a genuine societal orientation. The elite has demonstrated a peculiar ambivalence to the educational system; the gap between its profession and practice is conspicuously wide. The thin upper crust of society has shown little inclination to set an example by resisting the temptation of sending its own children to the privileged schools and putting them instead in the stream which they recommend for the country as a whole with great eloquence and rhetoric. The structure of economic opportunities and the norms governing the distribution of power and patronage are such that many of the prized positions in society go mostly to the products of institutions representing privilege. The existence of two parallel systems—one for the haves and another for the have nots—creates problems. What is offered to the masses cannot gain either credibility or social legitimacy. Upwardly mobile groups look to the trend-setters in the elite and aspire for access to the latter's advantages. This explains why nationalist institutions, set up during the height of the freedom movement, passionately strive to attain formal university status and why institutes of rural higher education languish. Until the citadels of power and privilege are demolished, it is most unlikely that there will be any significant change in the pattern of education. Nevertheless efforts from within have to be made to revitalize the system and to restore to it as much purpose as we can within the constraints of the politico-economic order.

I think two reforms in the educational system are urgently needed: for both only minimal outside help will be needed. But both will make heavy demands on the imagination, resourcefulness, creativity, and the sense of social purpose of the academic community itself. Much of our educational endeavour is turning into a dull and somewhat purposeless routine. That is why our students are disenchanted and at least a section of the teaching community is turning cynical. The obsolescence of the system is alarming and it is being increasingly detached from the vital contexts of contemporary life. If we recognize this situation and start responding creatively to it, I think, we shall have taken a major step forward. Innovations in this direction will require some financial outlays but their magnitude need not be such as to render them beyond the resources of a poor country. The basic input, in any case, will be our own commitment and desire to improve things.

First and foremost, education has to re-dedicate itself to the cultivation of knowledge. This is its primary function. Knowledge, in this context, has not to be viewed as a complete and bounded system which can be attractively packaged and offered in different measures to those who pass through the portals of the institution of higher learning. The system must allow for transmission of existing knowledge as well as for its growth in desired directions. Alongside this intrinsic function, at no point can we afford to lose sight of its instrumental functions—those of sharpening problem-solving capabilities so as to equip the younger generation to cope with the tangled problems of the world in which they live. Our academic system appears to have become the prisoner of a pattern. So far the pattern has succeeded in defeating all innovation and reform. A radical restructuring of our curricula needs to be pursued in a determined manner. The first degree programme can be altered to incorporate three distinct elements. The first of these elements should be devoted to the cultivation of some basic skills and essential awareness. Pedagogic and technological innovations are needed to impart skills in two major areas—communication and mathematical reasoning. Every university graduate should have adequate competence both in speech and writing. In the years to come a developed capacity for mathematical reasoning, I feel, will be a pre-condition to the persuit of nearly all significant branches of learning. At the same time, no student of science technology can do without an understanding of the contemporary social situation and problems and no student of the arts—the humanities and the social sciences—should be left unacquainted with the impact of science on society. An understanding of the kind of future which mankind may have to encounter, if it fails to intervene meaningfully in the process of history, should also be an essential part of the awareness content of education, The second part, which I shall call the specialization component, should be devoted to the in-depth study of an academic speciality. Here also a discipline should not be viewed as a rigidly bounded system. Around the major field of specialization, essential and relevant insights from cognate disciplines should be brought in. The core courses as well as the ancillary courses should be so drawn as to constitute a meaningful and organic whole. To these we shall have to add a third essential component—problem-solving. This part should be aimed at imparting a practical orientation—translation of theory to an action idiom. All this is by no means a tall order: it can be done.

Let me refer to one more item on the educational agenda for the future. The need for compulsory community service by the students has been emphasized for over two decades. It has been a recurrent theme in all discussions on educational reforms; it finds predominant mention in the recommendations of major commissions, committees, working groups, and seminars on education. Political leaders rarely miss an opportunity to exhort students to go to the villages to serve the people. But so far, in this respect, we have produced more words than action. Platitudinous advice, given in solemn words, is befittingly heard with mock seriousness. There the thing rests, until there is occasion to repeat the performance. Let me not be misunderstood. I do not wish, in any sense, to be little the importance and desirability of involving the younger generation in the welfare and development of the community. My scepticism flows from the uneasy feeling that the concept of community service has become a cliche. As of now we neither have a viable plan of action nor do we have variable strategies for different parts of the country and for different sections population representing different community needs. I have no doubt that our younger generation is not devoid of idealism. But I do have serious misgivings about our capacity to mobilize it for meaningful and sustained work in this field. Youth power in the country has a tremendous potential; it has convincingly demonstrated that it can shake the very foundations of the social order and even change a well-entrenched government. But I wonder if today it is ready to take upon itself constructive roles in the tasks of national reconstruction. Purposive community service would involve creation of a disciplined corps of students, a well spelled out programme, necessary training to the leaders as well as the cadres, and assurance of essential technical guidance and material support. There is no evidence of the existence of such blueprints. To divert the youth from the ethic of power to the ethic of service, a major mobilization effort and some extremely perceptive and pragmatic planning will be required. Perhaps a beginning could be made by the involvement of the youth in a national programme of intensive citizenship education of the people. The strategies of such a programme will have to be so devised that student participation, while rendering tangible service to the people, also becomes a definite learning experience. Their endeavours should benefit the community and at the same time impart a sense of realism to the academic knowledge they acquire in formal instruction. Not much remains to be said on the subject, what we need to do now is to get down to business. History will judge us not so much by the quality of our reflection as by the results of our action. I am convinced that in this arena the people's power—*lokshakti*—has a much bigger role than the power of the state—*rajshakti*. A major initiative has to come from the youth.

I can go on and on in this vein, but I must stop at this point. At this critical juncture in human history rethinking the goals and philosophy of education is imperative for mankind is facing an uncertain and difficult future. Towards redesigning alternative patterns of living education will have to respond creatively to many unprecedented challenges. We do need deep reflection, but it has to be supported by purposive action. Those of us who have had the benefit of receiving higher education at the cost of the community have a special role to play. Unless we work resolutely towards the enlargement of social consciousness and come up with viable plans of action for survival, our species, I am afraid, is doomed. There is no cause for immediate alarm, but time is runing out.

May I congratulate once again all those who have received their degrees today. A special status has been bestowed on them; I hope they will remember that it carries with it some special responsibilities.

Industrial rubbers, polymers and waxes developed

Indian scientists have developed technologies to produce a wide range of industrial rubbers, polymers and waxes which have been imported so far.

Some of these technologies are ready for commercial utilization and promise to save considerable foreign exchange once put to commercial use.

The National Chemical Laboratory, Poona has developed polysulfide rubbers which have outstanding resistance to wear and tear due to fuel, ozone and weather. These rubbers find use in the manufacture of aircraft, marine and automobile industries.

Another rubber known as Sulfochlorinated polythylene (SCPE) has been developed at the Laboratory with outstanding resistance to weather and abrasion. It can be used for high temperature gaskets, hoses, shoe soles. Technology for the manufacture of cellulose butyrate (CAB) has also been developed by NCL. It is an essential component for the manufacture of fountain pens. At present, the country's entire requirement of CAB is met through imports. The utilization of this NCL technology will not only save foreign exchange but will also give fillip to fountain pen manufacture in the country.

In another experiment, the laboratory has successfully produced rigid urethane foam for use in regrigeration, transportation and as a substitute to wood in furniture.

The Indian Institution of Petroleum, Dehra Dun has for the first time in the country produced microcrystalline wax for use in electrical insulation and for paper and leather treatment.

The was is now being exported by the Oil and Natural Gas Commission. Orders for export of this microwax has been secured from UK, Germany and Japan. The process developed by the IIP scientists makes use of a waste product in the production and pumping of crude oil.

PANJAB UNIVERSITY

Advertisement No. 34/77

The Vice-Chancellor will be pleased to correspond with eminent scholars of Punjabi Language, possessing proficiency in Hindi Language and Literature for appointment as Guru Ravi Dass Professor. The post will be in the payscale of Rs. 1500-2500 with other ancillary benefits.

Those interested are required to write to the Vice-Chancellor along with their bio-data and a list of their publications by **December 31, 1977.**

CAMPUS NEWS

All India Symposium on Floristic Studies

(From Our Special Correspondent)

An all-India symposium on Floristic studies was held at the Botanical Gardens, Howrah on November 16, 1977. It was organised by the Botanical Survey of India and inaugurated by the Head of the Department of Botany, Calcutta University, Prof. A. K. Sharma. Prof. Sharma in his inaugural address said that although eighty per cent of the world's flora grew in the tropical region, it still remained "unexploited" to a great extent. He called for more botanical research, and described Eastern India as an ideal place for this. He also laid emphasis on measures to conserve rare species of flora.

Mr. S. K. Jain, Joint-Director of the Botanical Survey of India, referred to the scarcity of trained field and herbarium botanists and said that although there was no organised programme to train young taxonomists, many scientists had acquired expertise comparable to international standards. In the U. S. A. and Soviet Union, indigenous drugs were being made from herbs and the same could be done in India, he added. He said, the largest botanical garden in India would be opened in Port Blair.

Calcutta new centre for orthopaedics

An artificial limb centre has been set up in the Eastern Railway's Orthopaedic Hospital, Howrah in collaboration with the Ministry of Defence. Dr. S. K. Mukherjee, Vice-Chancellor of the Calcutta University said that the hospital has been recognised by the University of Calcutta, as a centre for postgraduate studies in orthopaedics and also for training house surgeons. The week-long seminar, inaugurated by the Vice-Chancellor, Calcutta University was attended by more than sixty delegates, besides eminent Calcutta Surgeons, specialised in orthopaedics and plastic surgery.

Regional councils for undergraduate studies recommended

The Committee set up by Calcutta University's Syndicate to work out specific schemes for decentralisation of undergraduate studies and examinations has recommended eight autonomous regional councils for the university's one hundred and seventy-five affiliated colleges. The committee has suggested that while the Syndicate should have matters relating to courses of studies, selection of textbooks, fixation of fees and moderation of question papers, the regional councils should be responsible for the administration of undergraduate studies and examinations in arts, science and commerce. Separate councils have been suggested for medical, engineering and other professional courses. Law, education and library science would come under the jurisdiction of the council for professional courses.

Of the eight regional councils, three would be in Calcutta. The others would be at Kalyani, Jadavpur and Burdwan. For colleges situated at Midnapore district, a separate regional council has been suggested till a university is set up there. The eighth council would be located at Agartala, with jurisdiction over colleges in Tripura.

The committee agreed with the recommendations of the Ghani Committee set up by the U. G. C. on reconstructing the university and suggested that Syndicate be responsible for ensuring coordination among the councils and uniformity of standards.

The West Bengal Government has agreed to allot about 19 acres of land in Salt Lake Sector III to Calcutta University at a subsidised rate for building a new complex.

The Government has also agreed to allot about 6 acres of land in Sector I of the township for building teachers' quarters.

Farm University Review Team visits Rajendra Agricultural University

ICAR Agricultural University Review Team under the chairmanship of Dr. M.S. Randhawa, former V.C., Punjab Agricultural University is visiting every state by the end of November to find out how far these universities have met the objective of producing non-elite graduates capable of self employment on to serve the farmers to transfer quickly the latest farm technology more effectively. It will also advise the universities how to bring about rural orientation in home science colleges so as to serve farm women who contribute 40 percent of total energy required in agriculture in India. Recently, this team of eminent agricultural scientists, educationists including ladies visited four eastern states of India namely Bengal, Assam, Orissa and Bihar from October 31 to November 5. The team visited agriculture and veterinary colleges a Kanke on 4th and 5th November

Prominent members were: Dr. D.N. Sharma, former V.C., Patna University and Chairman, Bihar Granth Academy; Dr. M.R. Dhanda, former Director IARI and Director, Animal Science Division, Commonwealth Agricultural Bureaux, London; Dr. J.B. Chitamber, Principal, Agricultural Institute, Allahabad and former member UGC. Prof. S.K. Mukerji, former V.C. and Assistant Director General (Agriculture Education) accompanied the team during their visit to eastern region. The team held discussions with staff and student representatives. They were agreeably surprised to learn from the students that English should be the medium of education for higher education particularly at post-graduate stage. The team had the same experience where the students lamented that they have to study textbooks in highly sanskritised Gujarati which they do not understand and English has been banished from the university. As a result for last four years no Gujarati student has competed in examination conducted by ICAR for junior fellowship and for Agricultural Research Service. The business firms mentioned in their advertisements that candidates from Gujarat Universities need not apply. The team felt that there is an urgent need to teach English as a library language in every university for those who secure admission for higher education as in non-English European countries.

The introduction of animal unit in Ranchi Veterinary, College for the first time in 1974 to teach animal production by learning by doing and attaching 100 patients per day was the highlight of the visit. The newly adopted earn while you learn and crop production course and training courses for literate farmers in both the colleges was highly appreciated. Recently, Mr. B. Shivaraman, Member Agriculture, Planning Commission visited the campus in November and has suggested to the Bihar Government that in addition to Kanke two more blocks be attached to the Kanke campus of Rajendra Agricultural University to hasten the transfer of new farm technology like dry farming techniques, bacterial fertilizers, application of line and spread of "gall fly" resistent paddy varieties selected at the local campus research station.

Radio lesson workshop

Stressing the importance of radio as a medium of correspondence education, Prof. R.C. Paul, Vice-Chancellor, Panjab University, said that radio talks with their stress on personalised approach to the subject delivered by a teacher himself, fill the gap left unbridged by the impersonal lesson.

He was inaugurating a 2-day radio lesson workshop on October 12 jointly organised by the Correspondence Courses, Directorates of Panjab and Punjabi Universities with the collaboration of the Jullundur Station of All India Radio.

Mr. Qaisar Qalandar, Station Director, AIR, Jullundur, in his key-note address spelled out the four-point instruction for model radio talks stressing simplicity of language, use of short sentences with suitable pauses, unity of theme and repetition of the central idea.

Major Jiwan Tewari, Director, Correspondence Courses, Panjab University, observed that about one lakh distant students had been benefited from the series of the university broadcasts through AIR, Jullundur.

Commonwealth Information Guide

A reference guide to education and training resources available in developing countries of the Commonwealth has been published by the Commonwealth Secretariat. It is a revised and enlarged edition of a similar directory published in 1974, and provides up-to-date information on post-secondary institutions and courses relevant to students from other countries.

Though not comprehensive, the Directory gives extensive coverage of facilities in some 40 Commonwealth countries and will be of particular value to those concerned with training, whether as government training officers, principals of institutions or students.

It is arranged in three sections: the first covers nearly 300 institutions offering courses for which the entry standards are lower than those required by universities; the second lists 159 universities and other degree granting institutions; and the third includes 169 other institutions offering courses at first degree, post-graduate or other advanced levels. A number of research establishments which can accept students for training are also listed.

The purpose of this new edition is to facilitate more extensive collaboration between Commonwealth countries in the use of training facilities to produce the middle and high level manpower required for economic, and social development.

The publication can be obtained from Commonwealth Secretariat Publications, Marlborough House, Pall Mall, London, SWIY 5HX.

Kashmir's centre of adult education

The University Grants Commission has approved the proposal of establishment of a Centre of Adult/Continuing Education at the University of Kashmir.

To start with an amount of Rs. 1.40 lakhs has been earmarked for the Centre. Following programmes are envisaged under the Centre of Adult and Continuing Education: Orientation/Refresher Courses for College/School teachers; Orientation-cum-training programmes for the extension workers of the Department of Community Development; Training programmes for Fishermen for fish canning and for Farmers; Extension lectures for faculty wives; Medical extension programme for the University Community; Leadership programmes for N.S.S. volunteers; Orientation courses for kitchen gardening, Secretarial practice, Book-keeping & Accountancy; A preparatory course for I.A.S. and other competitive examinations; Lecture programme for general enlightment of people on subjects like the rights and obligations of citizenship, problems of contemporary world law for the laymen, etc;. A course on nutrition and child care, First aid, Fruit preservation and Mushroom cultivation.

World Bank team visits PAU

A World Bank Team consisting of three experts—an irrigation engineer, an agronomist and an economist accompanied by the irrigation experts of the State Department of Irrigation, the Punjab Tube-well Corporation, had a fact-finding appraisal of various studies carried out by the Punjab Agricultural University experts on a number of aspects of crop rotations, cropping intensities, marketable surpluses, marketing patterns and scope of increasing agricultural production in the State. Based on their previous meeting of September 28 and 29, they had with the university experts, they got clarifications on various points of doubt. Round of discussion was held with the University economists, agronomists and soil & water management engineers under the chairmanship of Dr A. S. Kahlon, Dean, College of Basic Sciences & Humanities.

World Bank is financing a major composite irrigation scheme of the Punjab State pertaining to lining of irrigation channels, distributories and flood control and drainage projects to increase and better the utilization of the existing water resources of the State.

Towards Question Banking

Forty Delhi University teachers of English met at a workshop for three days, from November 7 to November 9, 1977 to evolve ways and means of improving examinations in English Language and Literature at both the undergraduate and postgraduate levels. It was for the first time that a serious and concerted effort was made by the Delhi University teachers of English to discuss problems of typology of items/questions, designing and balancing a question paper, and introducing objectivity in marking/evaluation.

The workshop was organised under the joint auspices of the Association of Indian Universities and the Department of English, Delhi University. Far from being a futile theoretical exercise of speeches, discussions and cereonials of inaugurals and valedictories, as ome workshops turn out to be, this workshop aimed at practical and productive work.

The tone of work was set on the first day by two distinguished scholars, Prof A. N. Kaul, Head, Department of English, Delhi University, and Prof R. N. Srivastava, Head, Department of Linguistics, Delhi University.

Multiplicity of problems posed by them evoked enthusiastic response from the participants. The participants addressed themselves to the problems, classified them under different heads, and took them up for consideration within the constraints of time.

It was indeed lucky to have Prof. V. Natarajan, Project Officer (Exams), Association of Indian Universities, an eminent scholar, with a host of publications to his credit, as the Course Director. With a marked sincerity and exuberance he introduced the subject-free (but duly illustrated from varied subjects and disciplines) notions of objectives of learning and teaching, scientific writing of objective type items/questions, assigning weightages by objectives in the designing of a question paper, and pre-validation of items/questions.

It was only after a thorough discussion, sometimes marked by initial scepticism and resistance, that the participants arrived at the conclusion that English Language and Literature were also, like other disciplines, amenable to the specification of objectives of learning and teaching, and objective type testing. Some of the doubts about the objective type items being capable of testing higher level abilities in language and literature were put at rest by the participants exposing themselves to an entirely Objective Type test in Critical Analysis in Reading and Writing, Educational Testing Service, Princeton. The distinguished speakers on the last day, Dr R. W. Desai and Dr C. L. Nahal, further corroborated some of these points.

Once the conviction sought had been obtained the participants engaged themselves whole-heartedly in the writing of objective type items / questions. About three hundred items/questions in different areas were produced conforming to the scientific principles enumerated and explained by Prof Natarajan. It was decided that the participants would follow up the work started at the workshop, and write lots of items/questions on prescribed texts and areas of study. A meeting to take stock of this work and discuss related problems has been proposed for 19th December, 1977.

It has been decided to collect the items/questions written by the teachers, pre-validate them and put them together as initial Question Bank to be used for field trial. The Association of Indian Universities already has a Question Banking Project in English Language and Literature, both at the undergraduate and postgraduate levels, in hand. A number of workshops have already been held at various universities in the country to initiate and involve a large number of teachers in the writing of items/questions.

The basic outcome of this workshop, as of many others held elsewhere, was the realisation of the usefulness and meaningfulness of Question Banks. Apart from clearing certain frivolous notions of a Question Bank being a mere collection of 40-50 Questions from previous years' question papers, a positive idea of deep scientific thinking not only in the writing of items/questions that go into it but also in the planning, scheduling and implementation of it was brought home to the participants. It is only by securing a conviction and an active involvement of teachers that banking on Question Banks to usher in major reforms in the examination system, with its own impact on curriculum planning and methodology of teaching, can be made a viable proposition. The teachers of English at Delhi University have taken the first constructive step in that direction at the workshop.

The workshop played host to some eminent personalities: Prof. Sampath, Member, UPSC and Dr. Goel, UGC. They acquainted the participants with the thinking of the UPSC and the UGC on the subject. Question Banking constitutes a major component of examination reforms being proposed.

Fourth seminar of Registrars and Administrative Officers

The Fourth Administrative Development Programme, organised by the Seminar of Registrars and Adminisrative Officers of All-India Institutions in Science, Technology and Management, was successfully conducted at the Indian School of Mines, Dhanbad, from October 3rd to October 4th, 1977. This programme was specially designed for middle-level administrators of leading educational and research institutions and the CSIR Labs.

The three main objectives of the programme were ;

(1) Required information and knowledge of the basic concepts and principles of management and modern management techniques in fields relevant to their work;

(2) Specific functional skills needed for effective institutional administration, particularly in their respective spheres; and

(3) New awareness and new attitudes on the part of middle-level personnel towards understanding of the central aims and purposes of the institutions with which they are associated and towards enlarging their competence and improving their educational contribution.

The programme was attended by seventeen participants in full from the Seminar Institutions, the CSIR Labs and the Industry, four Registrars and Administrative Officers from the participating institutions, besides one participant from Industry attended part of the programme. The programme was given a flying start on October 4 morning by an inspiring address by Prof. G. S. Marwaha, Director, Indian School of Mines, who had evinced great interest in organising the programme at Dhanbad by providing all facilities to the seminar for this purpose. Mr. S. N. Pandey, Director (Personnel), Bharat Coking Coal Limited, delivered the valedictory address on October 14 afternoon.

The majority of the sessions of the programme were handled by the Faculty of the Administrative Staff College of India, Hyderabad, and the Indian School of Mines, Dhanbad, the Birla Institute of Technology and Science, Pilani, and the rest by the executives from Bharat Coking Coal Limited, Dhanbad and the New India Industries Ltd. Baroda. The Registrars and Administrative Officers of some of the participating institutions also acted as Resource Faculty and took part in the discussions.

Following the suggestions and recommendations made by the participants and the Resource Faculty of the earlier three ADP's and the Case Workshop, the following welcome changes were incorporated in the Fourth ADP:

The majority of sessions were case discussion sessions as the seminar has already built up more than 100 case-studies;

Role play and exercise sessions;

Special sessions on Project Management and CSIR Reorganisation and on Administrative Problems of Central Universities and the IITs and IMs;

Participation of executives from Industry as Resource Faculty and visit to the Coal Mine where the participants came face to face with the black diamond embedded in Mother Earth;

A mix of participants from various sectors—educational and Re-search institutions, CSIR Labs and Industry.

The main pedagogical tool used in the programme was the case studies developed by the seminar. The participants got heated up even on the very first day and the tempo was kept throughout the first week. The second week opened with case discussions on specific problems of administration in educational and research institutions in which the Registrars and Administrative Officers of some of the participating institutions joined. The objective was to enhance the interaction and enliven the proceedings by the participation of experienced administrators of educational and research institutions. Other pedagogical methods like role-play exercises and conceptual inputs by the Faculty were also adopted as part of the total development of the participant-administrators.

The participants clearly understood the three main objectives of the ADP. The programme has been most successful in bringing about new awareness of self, as well as of others—subordinates, peer group and superiors and also new attitudes on the part of middle-level and administrators working in educational and research institutions. The participants in their evaluation report have rated the faculty contribution as of a high order. The fourth ADP was a definite improvement over the first three ADP's in its practical and problem-oriented approach to most of the topics taken up for discussion. The participant-mix hailing from three different sectors—Education, Research and Industry—added to the richness of the discussion, exchange of ideas and experiences and enhanced the learning value of the programme. The participation of representatives from industry was in keeping with the new approaches being developed by educational/research institutions and research labs to work in close liaison with the environment and with industry.

The participants have suggested the following topics for inclusion in the next programme :

Time Management;
Project Management;
Students' Hall Management;
Estate Management;
Futurology.

They have also voted in favour of the continuation of the case method of teaching which held the prime of place in the Admn. Development Programme while conceptual inputs may be given either before or after the case discussion sessions, when necessary. The participants reinforced and complimented the organisers for keeping the main thrust of the programme as participant-oriented and problem-oriented with the Resource Faculty acting as facilitators and catalytic agents. They have also agreed to contribute a minimum of two to three cases each to the Case Development Programme of the Seminar.

With the enthusiasm created by the programme among the participants the seminar hopes to bring out the two Case Books:

Case Book on Higher Education/Research Administration;

Case Book on Collegiate Administration.

The two Case Books, which are pioneering ventures of the seminar and the first books of their kind to appear on the Indian scence, will be going to the press shortly and will be published sometime in April/May 1978. The credit for this achievement will entirely go to the participants of the four ADP's and the Case Workshop and to the Registrars and Admn Officers of the participating institutions.

The favourable response evoked by the four ADPs conducted by the seminar, among the participating institutions and the CSIR Labs and the industrial organisations, has given all members of the Co-ordinating Committee of the seminar confidence to plan our future activities so that we are able to sustain the momentum created by the solid work of the voluntary group of Registrars and Admn Officers of the participating institutions over the past ten years.

The seminar has planned the following programme in 1978:

Three-day seminars for Superintendents and Assistants in the respective institutions;

Three-day seminars for Secretaries and Personal Assistants;

Fifth Administrative Development programme for middle-level administrators in Educational/Research Institutions and Research Labs.

Seminar on Library and Education

A seminar on "Library and Education" was held at Salem recently. Mr. D. S. Arul was kind enough to direct the seminar. Mr. D. Moses, the local convenor welcomed the participants. Prof. R. Narasingham, Principal, Government Arts Collage, Rasipuram and Chairman of the Government Collegiate Teachers' Association delivered the key-note address.

Without library there is no education. There is no need for any Intermediary Officer between the Principal and Librarian in Colleges. Whatever be the difficulties, financial, administrative or otherwise, promotion of reading habit should be the prime concern of the Principal and the Librarian. Unless there is open access, the students cannot derive any benefit. Love of books is essential for anybody who believes in education. Librarians should devise new methods to attract the students to the library and to make them book-minded. It is the duty of the librarians to educate the students on library resources and library methods.

Dr. S. R. Ranganthan's "Five laws of Library Science" is an essential reading for all teachers and educators. The concept of library has changed. The modern library is not a mere collection of books as in the past but has become the nerve-centre of all academic activity.

The librarian should arrange for film shows on libraries through Audio-Visual Education Department. Tours of modern libraries can be arranged for the teachers and students. Some useful books may be kept in the hostel for the benefit of the hostel students. Authors of books of current interest may be requested to give lectures. Book reviews may be arranged. In order to perform all these services, the library should be provided with sufficient functional space, suitable furniture, necessary equipment, and adequate qualified staff. The librarians and library staff deserve better treatment and working conditions.

Mr. K. Nellayappan in his paper on 'Library as a means of education' described the library as "active instrument of education and human development rather than passive guardian of knowledge'. He added that modern trend in education is to develop a thinking individual. The library is a means for universal self-education. In academic institutions the duties and services of the librarian begin where the task of the teachers in the class-room ends. Education benefit of library service is like a body without soul. It can be concluded that from the primary stage to the highest stage, the library serves as a successful companion and if the nation's expenditure on formal education is to be utilised properly, any educational programme must be preceded by the provision of library service.

Mr. N. Ganesan, in his paper "Library and Non-Formal Education" stressed that the public libraries, should become community information centres with the social responsibility of abolishing illiteracy. It is not enough if the librarians collect, and organise library materials but they should sell their goods to the members of the public in an effective way. In fact librarianship is a sort of "salesmanship". The libraries should not wait for the readers to come but somehow attract the public and initiate them in the methods of acquiring knowledge. Public libraries should be made effective centres of self-education and continuing education. He gave some useful suggestions regarding the training of the library staff and the grading of various cadres to manage the libraries. He outlined some salient features in library education also.

Mr. K. R. Soundararajan in his paper on "Library and Education" has stressed the need for abolishing the present method of spoon feeding education and emphasised on the need for library-oriented methods of teaching. The college librarians should be directed to teach the students on the library resources, methods and guide them regarding writing of theses, project reports and technical papers.

Findings of the Seminar: Two hours of library orientation per week for first year students by college librarians may be included in the framework of the college time-table; To make the students realise the importance of library habit and self study the students should be directed to maintain library diary, to be supetvised by the librarian. Two hundred marks may be allotted for this purpose under the internal assessment scheme; It should be made obligatory on the part of the colleges to establish book-review clubs or readers' forums; librarians can help the students with useful books on various topics of study if the teachers inform the librarians the plan of lectures before hand.

Later in the business session, the following resolutions were passed unanimously:

"To thank the Principal, Government Arts College, Salem for granting permission to hold the seminar in the College premises.

To thank the Government of Tamil Nadu for implementing the U. G. C. scales of pay.

To request the Government of Tamil Nadu to sanction Assistant Professor's scale of pay for Grade II Librarian also.

To request the Government of Tamil Nadu to sanction Selection Grade for senior Librarians with ten years of service.

To request the Government of Tamil Nadu to transfer the College Librarians now borne under General Subordinate Service to Educational Subordinae Service.

To request the Government of Tamil Nadu to classify the College Librarians as Teaching Staff in conformity with the regulations of our universities and the provisions under the Tamil Nadu Private College Teachers' Act.

To request the Government of Tamil Nadu to appoint a High Level Committee consisting of the three university librarians and some senior college librarians to go into the question of all aspects of college library administration.

To request the Vice-Chancellors of the Universities in Tamil Nadu: (a) To offer library science or Library Orientation under Foundation course.

To include library science as an ancillary subject of study for the degree courses; and

To provide for Library Initiation Hours—Two hours per week for the First Year Degree students to be engaged by the college librarian under the framework of the college time-table".

Cancer diagnosis by computer

The first ever indigenous computerised cancer diagnosis service in the country will be introduced in Madhy a Pradesh at the Gwalior Cancer Hospital. The introduction of the computerised service would reduce the gap between the diagnosis and the commencement of the treatment of patients from the existing twenty days to twentyfour hours. Computer, India Hyderabad, has agreed to instal the computer at the hospital at a cost of Rs 12 lakhs. The expenditure will be shared equally by the Union Goverment and the private trust constructing the hospital.

The Gwalior hospital would be directly linked with the other three concer hospitals in the state at Raipur, Indore and Jabalpur so that the service would be available to the patients covered by these centres also. Thedata on cancer would be fed by these centres to Gwalior on telex and the findings and line of treatment would be transmitted back to the particular hospital the same day so that the patients could start getting treatment the very next day.

A research laboratory for cancer by allopathic, ayurvedic and homoeopathic methods of treatment would also be attached to the Gwalior hospital which would have its own herbarium where herbs, known since ancient times to be used for treament of cancer, would be grown. The hospital would have a mobile unit for the detection of cancer, especially among the rural people. The entire Gwalior cancer hospital project is estimated to cost Rs 2.50 crores. The project is to be completed in three phases.

Seminar on Himalayan Geology

The Wadia Institute of Dehra Dun held a seminar on Himalayan Geology at the Centre of Advanced Study in Geology, Panjab University, Chandigarh. A large number of Indian and foreign delegates participated in the seminar. A study trip to the Kalka-Simla section of the outer Himalayas was also organised. A number of lectures and group discussions on Simla slates and their equivalents were were arranged.

Five wood fossils, about 16 million years old found in the lower Siwalik beds at Kalagarh trijunction of Bijnor, Nainital and Garhwal districts have further confirmed the theory that many million years ago the Gangetic plain was covered by a sprawling sea. The wood specimens whose fossils have been discovered by a scientist of the Birbal Sahni Institute of Palaeobotany need very humid atmosphere for their growth. Since geological changes, many million years ago made the foothills of the U.P. Himalayas too dry for the woods now found in fossil forms to survive they became extinct. Their modern counterparts are, however, still found near Chittagong and southwards along the coastal strips of the Malayan Peninsula where humidity is much greater than in the region at the foothills of the U.P. Himalayas.

Another finding of fossils of organic material in Himachal Pradesh Siwaliks leads to the belief that there must have been oil formation there as well. A section of oil scientists are said to be of the view that intensive seismic surveys of the area are likely to lead to the discovery of folds where oil might still be laying trapped.

Bengal considering appointment of service commission

The West Bengal Government is likely to set up a Selection Committee for the appointment of teachers in 187 private colleges in Bengal. The Director of Public Instruction will be the Chairman of the committee in which one representative from each of the Universities of Calcutta, Burdwan and North Bengal would be associated. Other members will be the experts on individual subjects to be nominated by the State Government.

Mr Sambhu Ghose, the Minister for Higher Education, said that the decision with regard to the Selection Committee had been taken after full consideration by the Cabinet. According to him the recruitment of teachers in many colleges had remained suspended for the last two years in the absence of a service commission for the college teachers as required by the West Bengal College Teachers' Security of Service Act, 1975. The Government is considering the feasibility of setting up Service Commission in the near future. Mr Ghosh further clarified that the government might have to meet the entire financial cost on account of the colleges' share of the salaries of the teachers and non-teaching staff numbering about 6,000 and 5,500. Additional sum of Rs 2.5 crore is likely to be spent on this account. He said that 85 to 90 private colleges could not pay their share of the staff salaries which was only 25 per cent of the total amount. The Government spends over 30 lakhs towards meeting their deficit every year.

Recent trends in educational planning

Dr. P.C. Chunder, Union Education Minister, recently informed the Consultative Committee of Parliament of his Ministry that the number of subjects prescribed for the secondary stage of the new pattern of educational system would be drastically reduced. He said that the final report of the Syllabi Review Committee, appointed a few months back to consider the changes in the contents of the textbooks and syllabi for the 10 years school under the new pattern, was expected to be submitted to the government shortly. The Minister said that he would welcome concrete suggestions for the improvement of the education pattern. He however cautioned that the issue would have to be exmined from the practical angles.

While discussing the eradication of illiteracy in the couutry Dr. Chunder emphasised the need to involve political parties and trade unions in the literacy movement by members of all political parties. It was also suggested that adult literacy should be functional in its approach.

The Minister assured the committee that these points had been taken care of in the draft policy resolution on the issue to be placed before the recently constituted National Board of Adult Education. If necessary, the Board would be expanded to include more non-officials.

Several members called for changing the class character of the present education system and removal of the regional imbalances in this regard.

The Minister informed the committee that the University Grants Commission had recently liberalised the condition of eligibility for granting assistance to colleges. He hoped that more colleges would be assisted by the UGC during the current financial year.

Referring to the issue of examination reforms, raised by a member in the course of the discussions, the minister told the committee that 66 universities had already introduced sessional evaluation.

Besides, 23 universities were developing question banks. The Association of Indian Universities had developed about 70,000 questions in 10 subjects at the undergraduate level which were being published subject-wise to help universities develop their own question banks.

The Minister assured that he would keep in view a member's suggestion that while sending cultural delegation abroad, stress should be laid on neighbouring countries.

Dr. Chunder also said the controversial school text-books in history had been referred to "some historians" for opinion and had not been withdrawn. The controversy is over a reported move by the new government to withdraw "Medieval India" by Romilla Thapar and "Modern India" by Bipan Chandra published by the National Council of Educational Research and Training an official agency and prescribed for secondary schools.

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THESES OF THE MONTH

A list of Doctoral Theses Accepted by Indian Universities

SOCIAL SCIENCES

Anthropology

1. Patel, Ved Prasad. Comparative study of tribal and non-tribal peasantry in Madhya Pradesh. Ravishankar University.

2. Saha, Nirmal Kanti. Adoption of agricultural practices and social change among farmers in West Bengal. University of Calcutta.

3. Sengupta, Amitabha. Forms of economic relationship in a Bengal Village: A study of intercaste relations in changing economy. University of Calcutta.

Sociology

1. Narayana Pillai, G. Social background of political leadership in Kerala. University of Kerala.

2. Pant, Niranjan. Citizenship, leadership and civic life. I.I.T., Kanpur.

Political Science

1. Bandyopadhyay, Debkumar. The limits of loyality: The right of resistance in political thought. University of Calcutta.

2. Darshankar, Yamaji Fakeerchand. Leadership in Panchayat Raj: A study of Bhir District. Marathwada University.

3. Gopal Singh. Politics and violence: A study of Gujarat upsurge. Jawaharlal Nehru University.

4. Puri, Geeta. Delhi Pradesh Jana Sangh: A study of ideology and organisation. Jawahrlal Nehru University.

5. Rajendra Prasad Singh. Jawaharlal Nehru's contributions to socialism. Bihar University.

Economics

1. Bakshi, Prakash. Agricultural development and small farmers in Madhya Pradesh: A case study of Raipur District. Ravishankar University.

2. Chakravarti, Tapas Kumar. Financial market and the structure of interest rates in India for the period 1950 to 1970. Visva-Bharati.

3. Gopinathan Nayar, P.R. Education and economic development in Kerala. University of Kerala.

4. Jayalakshmi, M. Impact of family planning programme on the rural households in the selected three taluks of Coimbatore District with special reference to their food habits and food expenditure. University of Madras.

Education

1. Babu, N. A comparative study of personality factors of high intelligence—high creative thinkers and high intelligence—low creative thinkers in secondary schools. University of Kerala.

2. Bhattacharyya. Durgada. Learning disabilities in algebra: Diagnosis and prevention. Visva-Bharati.

3. Camoerta, Amarjit. A study of naturalism in education with special reference to modern education. Gauhati University.

4. Chaudhary, Umrao Singh. An evaluation of nationalized Hindi text-books (Classes I through VIII) of Madhya Pradesh. University of Indore.

5. Christian, Jyotsna Anandrai. A study of fear of failure, hope of success, achievement motivation, anxiety and concern in the girl students of Sardar Patel University in relation to their socio-economic status and performance. Sardar Patel University.

6. Guray, Krishna Shankar. To survey the applied nutrition programme and to find out the ways and means to improve the same through schools. Shivaji University.

7. Naran, S.K. A study of academic performance to some personality and perception variables. Gujarat University.

8. Patel, Ambalal Desaibhai. Development and try-out of auto-instructional programmes in some units of Geometry for Class-VIII and to study its effectiveness in the context of different variables. Sardar Patel University.

9. Sree Rama Murthy, M. Construction and standardisation of a scale for assessing the emotional behaviour of secondary school children as basis for education and vocational guidance. Osmania University.

Management

1. Sharma, Chandra Kant. Management and organisational pattern of university libraries in Madhya Pradesh, India. Ravishankar University.

HUMANITIES

Philosophy

1. Basuri, Benukar. A comparative study of the classical and modern treatment of disjunction. Visva-Bharati.

2. Pandey, Jagan Nath. Gita ka karam darshan: Siddhant aur proyog. University of Bihar.

Language and Literature

English

1. Katamble, Vaman Dudapa. The rural novel in Indian writing in English, 1920-1970. Shivaji University.

2. Narayanaswami, V.R. Language and style in R.K. Narayan's fiction. University of Madras.

3. Ram Chandra Prasad. The art of John Webster: A study of the White Devil and The Duchess of Malfi. University of Bihar.

Sanskrit

1. Bandyopadhyay, Sankarprasad. Bharatiya darsane sabdasya. University of Calcutta.

2. Bhattacharya, Dipak. The development of some important Vedic legends and ideas. Visva Bharati.

3. Kailash Prasad Singh. Sanskrit subhashiton ka shakshik mulayankan. University of Bihar.

4. Mishra, Vidhata. Prachin Bharatiya shikshan paddhati. University of Bihar.

5. Sharma, Pandey Ramayan Prasad. Varnashrama: Ek darshanik aur acharashastriya adhyayan. University of Bihar.

Hindi

1. Anjani Kumar Singh. A descriptive analysis of the Banjari dialect of Baster. Ravishankar University.

2. Aravindakshan, A. The novels and short stories of Ajneya: A study. University of Cochin.

3. Dharmveer Singh. Bhojpuri lok geeton kee samajik tatha sanskritik prishthbhumi. University of Bihar.

4. Gudurao, Nandini. Lakshminarayana Mishra ke natak. Karnatak University.

5. Jha, Deva Chandra. Dinker kee kritiyon mein shikshan: Ek adhyayan. University of Bihar.

6. Laghve, Namdeo Rao. Samkaleen sanskrit kee bhumika per Kabir kee vichardhara, sadhna aur sahitya-chetna ka tulnatmak anusheelan. University of Saugar.

7. Mishra. Rama Prasad. Goswami Tulsidas ka manvatavadi drishtikon. Ravishankar University.

8. Misra, Vimal Chandra, Gajanan Madhav mukti bodh ke kavya chintan ka anusheelen. University of Saugar.

9. Pai, P.R. Gopalkrishna. Nirala: Personality, philosophy and works, University of Kerala.

10. Patel, Sudhaben K. Bachchan ka vyaktitv aur krititv. South Gujarat University.

11. Ramalingeswara Rao, Madiraju. A comparative study of free-verse works and trends in Hindi and Telugu literatures. Andhra University.

12. Shemim, P.A. Historical dramas in Hindi (Khariboli) literature with special reference to Harikrishna Premi. University of Cochin.

13. Shukla, Aruna Govindnarayan. Muktanandji ke sahitya ka sahitya shastriya adhyayan. Sardar Patel University.

14. Tiwari, Shobha. Krishnayan mahakavya ke nari patron ka manovaigyanik anusheelan. Ravishankar University.

Urdu

1. Basit. Sayyida Waseem Durdana. Elichpur ke chand qadeem Urdu shoara. Nagpur University.

Bengali

1. Deb, Chitra. Malla Raajsabhakavi Sankar Kavichandra-o-tar Mahabharat. University of Culcutta.

2. Majumdar. Karunamay. Chandranath Basu: Jibanl-o-sahityakarma. University of Calcutta.

3. Mukhopadhyay, Asitkumar. Unabinsa satabdir upanyaser nayak 1858-1903. University of Calcutta.

4. Mukhopadhyay, Ram Mohan. Rabindranather adhyanmulak kavye pouranik-o-aithihasik upadan. University of Burdwan.

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CURRENT DOCUMENTATION IN EDUCATION

A list of select articles culled from periodicals received in AIU library during November, 1977.

EDUCATIONAL PHILOSOPHY

Ainsworth, David. "Examining the basis for competency based education". *Journal of Higher Education* 48(3); May-June 77: 321-32.

Mills, Ian. "Facts, frameworks and flavourings: An alternative to Praxis?" *British Journal of Educational Studies* 25 (1); Feb 77: 5-10.

Newman, Otto. "Educator's dilemma". *British Journal of Educational Studies* 25(1); Feb 77: 11-31.

EDUCATIONAL PSYCHOLOGY

Krishna Raj, Maithreyi. "Analysis of group-processess in learning". *Journal of Indian Education* 3(2); July 77: 1-10.

Manniche Peter. "On the development of fellowship and personality in education". *Indian Journal of Adult Education* 38 (4); Apr 77: 24-8.

EDUCATIONAL SOCIOLOGY

Jaitley, Arun. "Students in politics". *Surya India* 1(11); Aug 77: 47-8.

Kuriakose, P.T. "National Service: Need for rethinking". *New Frontiers in Education* 7(3); July-Sept 77: 45-57.

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EDUCATIONAL PLANNING

Mathur, V.S. "Implications of the new pattern of education". *University News* 15(20); 16 Oct 77: 553-5.

EDUCATIONAL ADMINISTRATION

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Chakravarty, Kumaresh. "Administration of higher education: An overview". *Journal of Higher Education* (Delhi) 2(2); Autumn 76: 223-32.

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Hoenack, Stephen A. and Weiler, William C. Comparison of effects of personnel and enrollment policies on the size and composition of a university's faculty". *Journal of Higher Education* (Ohio) 48(4); July-Aug 77: 432-52.

Kurien, C.T. "Open and participatory college administration". *Journal of Higher Education* (Delhi) 2(2); Autumn 76: 203-11.

Mathur, Kuldeep. "Leadership and organisational structure in a university". *Journal of Higher Education* (Delhi) 2(2); Autumn 76: 233-42.

Moye, Alfred L. "Meeting student demands: An example of voluntary response". *Educational Record* 58(2); Spring 77: 191-200.

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Harper, A. Edwin. "Critique of the present system of examination as a means of evaluating educational achievement". *New Frontiers in Education* 7(3); July-Sept 77; 73-90.

Lord, Frederic M. "Practical applications of item characteristic curve theory". *Journal of Educational Measurement* 14(2); Summer 77: 117-38.

Natarajan, V. "Question choice in examination". *University News* 15(20); 16 Oct 77: 551-2, 561.

Urry, Vern W. "Tailored testing: A successful application of latent trait theory". *Journal of Educational Measurement* 14(2); Summer 77: 181-96.

SCIENCE EDUCATION

Anand, Rishi and Shankaran, V. "Endeavour towards anatomy of science education". *Journal of Higher Education* (Delhi 2(2); Autumn 77: 197-202.

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Banerjee, Tarun. "Medical education: Problems and prospects". *University News* 15(19); 1 Oct 77: 520-3.

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Guruswami, N. "Education through open university". *University News* 15(19): 1 Oct 77: 524-5.

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"UNESCO AND the development of adult education". *Prospects* 7(2); 1977: 228-37.

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Azad, J.L. "State grants to collegiate institutions: A study of patterns and procedures". *Journal of Higher Education* (Delhi) 2(2); Autumn 76; 243-52.

Batra, Om Parkash, "Inter-state and inter-regional variation in educational wastage in India". *Education Quarterly* 29(2); July 77: 15-21.

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COMPARATIVE EDUCATION AND COUNTRY STUDIES

Broadfoot, Tricia. "Comparative contribution—a research perspective". *Comparative Education* 13(2); June 77: 133-7.

Gidadhubli, R.G. "Some aspects of higher education in the Soviet Union". *Journal of Higher Education* (Delhi) 2(2); Autumn 76: 149-65.

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(*Continued from page 645*)

5. Sarkar, Dinendra Kumar. Indrapujar utsa-o-swarup. University of Calcutta.

Gujarati

1. Desai, K.B. Anandghan study with special reference to Anandghan Bavisi. Gujarat University.

Malayalam

1. Purushothaman Nayar, M.M. Critical edition of Ramacaritam with a historical introduction and lexicon. Univeristy of Kerala.

Telugu

1. Dakshina Murty, P. The Telugu short story: Its structure and nature. Osmania University.
2. Radhakrishna Murthy, Gopaluni Venkata Shanmukha. A study of loan words in Telugu from cognate languages. Andhra University.
3. Ramanuja Charyulu, S.G. History of alankara sastras in Telugu. Osmania University.

Geography

1. Kundu, Amitabh. Methods of regionalisation and their applications to the study of urban processes in North Western India 1961-71. Jawaharlal Nehru University.
2. Tomar, Ram Prasad. Spatial and socio-demographic relationships of large sized villages and urban centres in Uttar Pradesh, 1961. Jawaharlal Nehru University.

History

1. Chakrabarti, Mahadeb. Rudra Siva in Ancient India. University of Calcutta.
2. Chakraborti, Jayanta Kumar. Techniques in Indian mural painting. University of Calcutta.
3. Muzaffar Alam. The Mughal Centre's relations with the Subas of Awadh and the Panjab, 1707-1748. Jawaharlal Nehru University.
4. Shukla, Ashok Kumar. Freedom movement in Chhattisgarh 1857-1947 A D. Ravishankar University,
5. Vasantha Bai, T.R. History of Thanjavur through the ages. University of Madras.

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(i) A Doctor's Degree or Evidence of Research work of equivalent standard in the subject concerned.

(ii) Teaching experience of Degree/Postgraduate Classes.

Provided if a teacher is not a Ph.D./M. Phil./M.Litt at the time of his/her appointment and does not qualify himself/herself for the award of Ph.D./M. Phil./M.Litt. Degree from a recognised University in a subject which is being taught by him/her within a period of five years from the date of his/her appoinment or does not give evidence of research work within that period in the subject concerned, he/she shall not be entitled to any future increments after the expiry of the said period of five years till such time he/she fulfils the above mentioned requirements.

Essential Qualifications For:

4. University Engineer

Graduate in Civil Engineering from a recognised University, possessing good working knowledge of Electrical Engineering.

Atleast 15 years' experience in R.C.C. design, cost estimation, and in designing, constructing and maintaining buildings, roads and utility services like water supply, sanitary gas and electric installations and sewage system.

Capable of handling electric motors, pumps, fluorescent tube lights, window type air-conditioners, electric geysers and coal fired hot water supply systems.

Must have atleast 10 years administrative experience in responsible posts. Should be conversant with contract law and P.W.D. accounting procedure.

5. Technical Officer

Degree in Electronics with 2-3 years experience OR Diploma in Electronics with 10 years experience OR M.Sc. Physics with Electronics as a special paper with atleast 5 years experience of handling of elctronics equipment.

6. Senior Technical Assistant (Technician)

M.Sc. Physics with Electronics as a special paper or Bachelor's degree in Electronics or Diploma in Electronics with five years experience of handling of Electronics Laboratory Equipment.

7. Technical Assistant

Graduate in Science. Experience in Laboratory techniques of the subject.

8. Laboratory Attendants

Should have passed the Matriculation or an equivalent examination with science subject.

II. Special/Desirable Qualifications For:

1. Professorship in Physics "Aryabhatta Chair"

Should be eminent scholar either in Theoretical or Experimental Physics.

2. Readership in Anthropology

Intensive field work experience in tribal/peasant societies. Specialization and teaching experience in one of the following branches:

(1) Kinship (2) Social Structure (3) Peasant Social System (4) Social Change in Tribal/Peasant Society (5) Political Anthropology.

3. Readership in Geography

Specialization in Industrial Geography or Transportation Geography or Political Geography.

4. Lectureship in Economics in the Department of African Studies

i. Research work on problems of African Economics;

ii. Knowledge of any African Language.

5. Technical Assistant

Five years experience in Anthropological Laboratories and field work. Adequate experience of maintenance and handling of Anthropological stores and Laboratory equipment.

6. Laboratory Attendants

i. Should have worked in a Laboratory.

ii. Minimum two years experience in Anthropological Laboratories and field work.

The prescribed application form can be had from the **Information Office** of the University either personally or by sending a self-addressed envelope (size 5''×11'') with postage stamps worth Rs **2.55.**

Selected candidates will have to produce the original documents relating to their age, qualifications, experience, etc. at the time of interview.

Applications (separate for each post) accompanied by attested copies of degrees, other certificates, mark-sheets published research articles, etc. should reach the undersigned not later than **17th December, 1977.**

Note: 1. It will be open to the University to consider the names of suitable candidates who may not have applied.

Relaxation of any of the qulifications may be made in exceptional cases, in respect of all teaching posts on the recommendations of the Selection Committee.

2. Canvassing in any form by or on behalf of the candidates will disqualify.

3. Candidates from outside Delhi for teaching posts, called for interview will be paid contribution towards travel expenses equivalent to 1½ single Second Class Rail fare.

4. Those who had applied in response to the earlier advertisements for Readership in Anthropology and Lectureship in Economics for the Department of African Studies, **need not apply again but in case they have any additional information to supply, they may do so.**

Delhi-110007. **REGISTRAR**
16th November, 1977

ALIGARH MUSLIM UNIVERSITY

Advertisement No. 28/77-78

Applications, on the prescribed form are invited for the following posts:

1. **Reader in Zoology (Temporary but likely to become permanent) Scale: Rs 1200-50-1300-60-1900 plus allowances.**

Qualifications

(a) A first or High second class Master's Degree in the subject concerned of an Indian University or an equivalent foreign qualification; (b) A research Degree of a doctorate standard or published work of a high standard; and (c) At least five years experience of teaching Postgraduate classes and some experience of guiding research.

2. **Reader in West Asian Studies (History) (Temporary but likely to become permanent). Scale: Rs 1200-50-1300-60-1900 plus allowances.**

Qualifications

(a) A first or a high second class Master's Degree in the subject concerned of an Indian University or an equivalent foreign qualification; (b) A research degree of a doctorate standard or published work of a high standard in Modern Arab History/Arabic Thought; and (c) At least five years experience of teaching postgraduate classes and some experience of guiding research. Knowledge of Modern Arabic.

Desirable

Knowledge of West Asian Social & Cultural Trends. Working knowledge of French, German or Russian.

3. **Lecturers in West Asian Studies (One each in Economics and Geography) Scale: Rs 700-40-1100-50-1600 plus allowances.**

Qualifications

(a) A Doctor's Degree or research work of an equally high standard; and (b) consistently good academic record with first or high second class (B in the seven point scale) Master's Degree in the subject concerned or an equivalent degree of a foreign University.

Having regard to the need for developing interdisciplinary programmes, the degrees in (a) and (b) above may be in relevant subjects.

Desirable

Economics: Preference will be given to candidates who have some research experience and have worked on any aspect of West Asian Economics and/or have experience of teaching West Asian Economics.

Geography: Preference will be given to candidates who have worked on any aspect of Arab Geography and have some knowledge of the Geography of West Asian and/or have experience of teaching West Asian Geography.

4. **Professor of Mathematics (Applied Mathematics) Scale: Rs 1500-60-1800-100-2000-125/2-2500 plus allowances.**

Qualifications

(a) A First or High Second Class Master's Degree in the subject concerned of an Indian University or equivalent foreign qualifications; (b) A research degree of a doctorate standard or published work of a high standard; and (c) At least ten years experience of teaching postgraduate classes and guiding research.

5. **Lecturer in Linguistics Scale: Rs 700-40-1100-50-1600 plus allowances.**

Qualifications

(a) A Doctor's Degree or research work of an equally high standard; and (b) Consistently good academic record with first or high second class (B in the seven point scale) Master's Degree in the subject concerned or an equivalent degree of a foreign University.

Having regard to the need for developing inter-disciplinary programmes, the degrees in (a) and (b) above may be in relevant subjects.

Desirable

Linguistics Transformational, Generative Grammar and Semantics. Published research work on Urdu Linguistics.

For Lecturers

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of the qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable, a person possessing a consistently good academic record (weightage being given to M. Phil. or equivalent degree or research work of quality) may be appointed **provided he has done research work for at least two years or has practical experience in a research laboratory organisation** on the condition that he will have to obtain a Doctor's degree or give evidence of research work of equivalent high standard within five years of his appointment, failing which he will not be able to earn future increments until he fulfils these requirements.

Prescribed application forms and instructions may be had from the Deputy Registrar (Executive) either personally or by sending a self-addressed envelope of 23 × 10 cm. Last date for receipt of applications is **15th December. 1977**. Incomplete appllications and those received late may not be considered.

Higher initial start may be given to candidates possessing exceptional qualifications and experience. Candidates interviewed may be paid contribution towards their T.A. equal to one single second class railway fare only.

Jamalur Rahman
REGISTRAR

* * *

PANJAB UNIVERSITY
CHANDIGARH

Advt. No. 32/77

Applications are invited for the following posts in the Department of Zoology in the pay scale of Rs. 1500-60-1800-100-2000-125/2-2500, so as to reach the Registrar, Panjab University, Chandigarh along with postal orders for Rs 7.50 by **17.12.1977.**

1. Professors of Zoology-2
2. Professor of Parasitology-1

QUALIFICATIONS

An eminent Scholar with published work of high quality actively engaged in research. Ten years' experience of teaching and/or research. Experience of guiding research at doctoral level.

OR

An outstanding scholar with established reputation who has made significant contribution to knowledge.

Candidates who do not possesss a Doctoral degree are required to submit 10 typed/cyclostyled copies of brief resume of their research/published work.

Persons already in service should route their applications through proper channel. Incomplete forms and those received after the due date will not be entertained. Serving employees may, however, send their applications on the prescribed proforma direct to the University. They may route another copy through their department. They will be allowed to present themselves for interview only on the production of a 'No Objection Certificate' from their employers. Canvassing in any form will disqualify a candidate.

Application forms can be obtained from the office of the Finance and Development Officer, Panjab University, Chandigarh, makihg a written request accompanied with self-addressed stamped envelope of 23 x 10 cms.

* * *

RABINDRA BHARATI UNIVERSITY
CALCUTTA-700 007

Employment Notification No. RB

APPLICATIONS ARE invited for the post of Deputy Registrar in the scale of Rs 1100-50-1600/- plus usual benefits of contributory P.F., H.R.A. and D.A. as may be admissible. Higher initial pay may be considered in the case of exceptionally qualified candidate. (N.B. The post is temporary but likely to be permanent soon).

QUALIFICATIONS : (a) **Essential**: Good Master's degree of any recognised University. Administrative experience for at least five years with experience of conducting University examinations. (b) **Desirable**: Administration experience preferably as Deputy Registrar or Deputy Controller or Assistant Registrar or Assistant Controller of Examinations of any University/or Head of any other recognised Institute not below the rank of a College. AGE: Not above 50 years age on 1.12.77, relaxable in case of specially qualified candidate. Applications in prescribed forms (available from University Office) along with attested copies of Mark-sheets from S.F./Matriculation onwards must reach the Registrar **by 17th December, 1977**, positively together with a non-refundable fee of Rs Rs 5/- only by Crossed Indian Postal Order payable to RABINDRA BHARATI.

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University News

A CHRONICLE OF HIGHER EDUCATION & RESEARCH DECEMBER 16, 1977 80 PAISE

Mr. Govind Narain, Chancellor of Bangalore University presenting gold medals and prizes to the students who won distinctions in various examinations.

CLASSIFIED ADVERTISEMENTS

ALIGARH MUSLIM UNIVERSITY

Advertisement No. 29/77-78

Applications, on the prescribed form, are invited for the following posts.

1. Professor of Botany (Plant Physiology or Cytogenetics)
Scale Rs. 1500-60-1800-100-2000-125/2-2500 plus allowances.

Qualifications ordinarily required

(a) A first or a high second class Master's Degree in the subject concerned of an Indian University or an equivalent foreign qualification; (b) A research degree of a doctorate standard or published work of a high standard; and (c) At least 10 years experience of teaching Postgraduate classes and guiding research.

2. Reader in Sunni Theology (Temporary but likely to become permanent)
Scale Rs. 1200-50-1300-60-1900 plus allowances.

Qualifications ordinarily required

A first or good second class Master's Degree in Sunni Theology, Arabic or Islamic Studies or its equivalent or a Fazil of a well reputed Madarsah in India or abroad. At least five years experience of teaching postgraduate or equivalent higher classes in a College, University or a well known Madarsah. Ph.D. Degree or any published scholarly work.

Desirable

Adequate knowledge of English.

3. Reader in Shia Theology (Temporary but likely to become permanent)
Scale Rs. 1200-50-1300-60-1900 plus allowances.

Qualifications ordinarily required

A first or good Second Class Master's Degree in Theology or Arabic or its equivalent or a Fazil of a well reputed Shia Madarsah. Ph.D. Degree in Theology or Arabic or Certificate of Ijtihad from Najaf (Iraq) or Qum (Iran) from well known Ulmas or published scholarly work in Theology. At least five years experience of teaching postgraduate or equivalent higher classes in a college, University or a well known Madarsah.

4. Reader in Statistics (Temporary but likely to be made permanent)
Scale Rs. 1200-50-1300-60-1900 plus allowances.

Qualifications ordinarily required

(a) A first or High Second class Master's Degree in the subject concerned of an Indian University or an equivalent foreign qualification; (b) A research Degree of a doctorate standard or published work of a high standard; and (c) At least five years experience of teaching Postgraduate classes and some experience of guiding research.

Desirable

Post M.Sc. Diploma and/or Research work of high standard in one or more of the following: Econometrics; Demography; Design of Experiments; Mathematical programming.

5. Reader in Economics (Plan Post) (Public Finance)
Scale Rs. 1200-50-1300-60-1900 plus allowances.

Qualifications ordinarily required

(a) A first or a high second class Master's Degree in Economics with

Indian University or equivalent foreign qualifications; (b) Research degree of a doctor's standard or published work of high standard in the field of Public Finance; and (c) At least five years experience of teaching Postgraduate classes in Public Finance and some experience of guiding research.

6. Reader in Economics (Temporary but likely to become permanent)
Scale Rs. 1200-50-1300-60-1900 plus allowances.

Qualifications ordinarily required

(a) A first or a high second class Master's Degree in Economics from an Indian University or an equivalent foreign qualification; (b) A research degree of a Doctorate standard or published work of a high standard; and (c) At least five years experience of teaching Postgraduate classes and some experience of guiding research.

Desirable

Knowledge of Statistics/Econometrics.

7. Lecturer in Economics (Temporary but likely to become permanent)

8. Lecturers in English (Temporary but likely to become permanent)
Scale of Sl. No. 7 & 8 Rs. 700-40-1100-50-1600 plus allowances.

Qualifications ordinarily required (For Sl. No. 7 & 8)

(a) A Doctor's degree or research work of an equally high standard; and (b) consistently good academic record with 1st of high 2nd class (B in the seven point scale) Master's degree in a relevant subject or an equivalent degree of a foreign University.

Having regard to the need for developing interdisciplinary programmes, the degrees in (a) and (b) above may be in relevant subjects.

FOR LECTURERS

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of the qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable, a person possessing a consistently good academic record (weightage being given to M.Phil. or equivalent degree or research work of quality) may be appointed **provided he has done research work for at least two years or has practical experience in a research laboratory/organisation** on the condition that he will have to obtain a Doctor's degree or give evidence of research work of equivalent high standard within five years of his appointment, failing which he will not be able to earn future increments until he fulfils these requirements.

Prescribed application forms and instructions may be had from the Deputy Registrar (Executive) either personally or by sending a self-addressed envelope of 23×10 cm. Last date for receipt of applications is **30th December 1977.** Incomplete applications and those received late may not be considered.

Higher initial start may be given to candidates possessing exceptional qualifications and experience. Candidates interviewed may be paid contribution towards their T.A. equal to one single second class railway fare only.

Jamalur Rahman
REGISTRAR

* * *

PANJAB UNIVERSITY
CHANDIGARH

Advertisement No. 35/77

Applications are invited for the following posts so as to reach the Registrar, Panjab University, Chandigarh, along with postal orders for Rs. 7.50 by **31.12.1977.**

1. Professor of Biochemistry-1

(Pay-scale: Rs. 1500-60-1800-100-2000-125/2-2500).

Qualifications

An eminent scholar with published work of high quality actively engaged in research. Ten years' experience of teaching and/or research. Experience of guiding research at doctoral level.

OR

An outstanding scholar with established reputation who has made significant contribution to knowledge.

2. Reader in Botany-1

Taxonomic mycology/Aphyllophorales) (Pay-scale: Rs. 1200-50-1300-60-1900).

3. Readers in Geology-3

(Pay-scale: Rs. 1200-50-1300-60-1900).

(Centre of Advanced Study in Geology).

Specialised fields for posts of Readers in Geology:

(i) Structural Geology
(ii) Sedimentology
(iii) Optical Mineralogy

Qualifications for the Posts of Readers

Good academic record with a doctoral degree or equivalent published work. Evidence of being actively engaged in (i) research or (ii) innovation in teaching methods or (iii) production of teaching materials.

About five years' experience of teaching and/or research provided that at least three of these years were as Lecturer or in an equivalent position.

This condition may be relaxed in the case of candidates with outstanding research work.

Candidates who do not possess a Doctoral degree are required to submit 10 typed/cyclostyled copies of brief resume of their research/published work.

Persons already in service should route their applications through proper channel. Incomplete forms and those received after the due date will not be entertained. Serving employees may, however, send their applications on the prescribed proforma direct to the University. They may route another copy through their departments. They will be allowed to present themselves for interview only on the production of a "No Objection Certificate" from their employers. Canvassing in any form will disqualify a candidate.

Application forms can be obtained from the office of the Finance & Development Officer, Panjab University, Chandigarh, making a written request accompanied with self-addressed stamped envelope of 23×10 cms.

UNIVERSITY NEWS

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Hony. Editor : ANJNI KUMAR

Problems of Affiliated Colleges

J. L. Azad*

The four thousand and odd affiliated colleges, which dot the educational expanse of this country, are responsible for 90 percent of the enrolment at the undergraduate stage and about 62 percent in the postgraduates and research courses. A very large majority of these institutions (about 78 percent) are under private managements with varying capacity to provide financial inputs and management competencies. As a consequence, the quality of education imparted by these institutions is far from uniform. It needs hardly be emphasised that no improvement in the university education system is possible unless the quality of these institutions, which are responsible for such a large proportion of university enrolment, is improved.

The problems of the affiliated colleges start from their very inception. Not all of these colleges, particularly those under the private managements, come into existence because of the felt need for their establishment. A number of these institutions are established on account of extra-academic considerations. Once a college comes into existence, it has to seek affiliation to the university by fulfilling certain minimum requirements by way of buildings, staff, reserve funds etc. In a number of cases, the managements that establish them cannot muster adequate resources to provide all the infra-structure for a good college education. The universities have, therefore, to find a way to bypass their rules of recognition. This is through the grant of 'temporary' recognition. That temporary affiliation is granted on a large scale can be realised by the fact that, in December 1976, about 2 out of every 5 colleges were listed as temporarily affiliated.

The temporary recognition affects the colleges adversely in more than one ways. Firstly, the spectre of withdrawal of recognition always looms large over the heads of the staff and the students. Secondly, the college is ineligible for any assistance from the U.G.C. unless it is permanently affiliated to a university and has been declared fit under section 12A of the UGC Act, 1956 for receiving grants. Thirdly, an institution with temporary affiliation cannot attract better faculty and students. Thus both from the point of view of financial resources and the quality of students and staff, such institutions are at a disadvantage.

The affiliated colleges, whether permanently, or temporarily affiliated have a very tenuous relationship with the universities, so much so that the colleges do not appear to be a part of the university configuration. The rules of affiliation laid down by the universities are, by and large, vague and imprecise. The university rules generally insist upon "adequate"

Chief (Edn.), Planning Commission.

buildings and "competent" staff. What these terms mean in actual practice is anybody's guess.

The grant-in-aid rules laid down by a number of State Governments sometimes lack dynamism and are attuned to a set institutional pattern. The first problem that the affiliated colleges have to face is the denial of state assistance for a period, which may vary between 2 years to 5 years. During this period, the colleges have to manage their own affairs. As a consequence, the college managements are forced to appoint staff who are willing to work without regard to the timely availability of salaries and who do not insist upon good service conditions. Quite understandably, the staff in these institutions cannot be of the requisite standard. The students who flock to these institutions are either rejects from other institutions or come from lower strata of society, who cannot manage to get admission to better institutions. Another by-product is that the low quality staff appointed in the initial stages cannot be replaced by better qualified persons even when the college can afford it.

Planned Institutional Expansion

It has been often suggested that the educational mess, in which we find ourselves today, could be cleared by controlling the establishment of these institutions. On deeper thought, however, the solution appears to be too simplistic and impracticable. The proliferation of the collegiate institutions of a general type is caused by the mounting demand for university places. So long as the secondary school leavers do not have the requisite employment facilities, they will continue to knock at the portal of the university institutions. It is, therefore, necessary that something tangible is done in order to control the ever-increasing body of students joining the university institutions.

The problem is extremely complicated and hyper-sensitive in the Indian situation. Through a policy of expansion of elementary education, educational facilities are now becoming increasingly available to those groups of population, which never had any tradition of education in their families for centuries. If the university enrolment is restricted, the adverse effect would be felt by the most vulnerable sections of our society. Restrictions of admissions across the board is, therefore, ruled out in the present situation,

The Planning Commission has suggested a package programme to solve this problem. This consists of vocationalisation of higher secondary education, enabling large number of secondary school leavers to enter employment; limiting admissions to regular institutions on the basis of merit, while making suitable reservations for backward students and meeting the rest of the social demand for higher education through non-formal system, that is evening colleges, correspondence courses, part-time courses and private study. This would necessitate preparing an integrated policy of educational development in which the school education would also respond in a positive way to curbing the number of aspirants for higher education.

The universities will also have to exercise a more decisive influence on the standard of educational facilities provided by the affiliated colleges. They should lay down rules of recognition in very clear terms and they should insist upon the observance of these rules without exception. Some relaxation may, however, be given for colleges in the backward areas and those catering to the needs of the economically and socially backward classes. Further, academic affiliation should not be a once-for-all affair. It should be continuously earned.

The State Governments should have a programme of planned institutional spread. The educational needs of the different regions in the state should be surveyed keeping in view the likely demand for univesity places as a result of the expansion at the lower levels. The capacity of the existing institutions to provide for the assessed needs may be kept in view. The expansion may be allowed only in those areas, in which the demand cannot be met by the existing institutions.

It has also been reckoned that there are a large number of colleges, which according to the U.G.C. criterion are subviable i.e. their enrolment is less than 400. This underlines the need for having a proper survey of the catchment area, so that the colleges could become viable in reasonable time-span. In case, some of the existing colleges are in no position to become viable, they should either be closed down or merged with the other colleges.

The problem of finance is very acute at least in the initial stages, when these institutions are not eligible for any assistance either from the state governments or the University Grants Commission. It is necessary to insist upon buildings and some reserve fund from the management before the college is even considered for affiliation. No college management should set up an institution, without its fulfilling the minimum conditions of affiliation. It is advisable for the state government to set up an institution under its auspices rather than allowing a private management to set up a sub-standard institution, which can at best impart an indifferent quality of education.

A word about the academic problems faced by the affiliated colleges. The affiliated colleges are somehow bound to the charriot wheels of the universities and are mainly at the receiving end. They are hardly given freedom to experiment with new ideas. The curricula, text-books, reference books etc. are laid down by the universities and exceptions are hardly allowed. The other curbing influence on the freedom of the institutions is the spectre of examinations, which stultifies initiative and acts as a strong barrier to experimentation. In order that the colleges should provide education which is relevant to the students' needs, they should be given freedom to modify their syllabi with reference to the local conditions. They should also be a party in the assessment of students' performance. This is necessary to encourage the colleges to experiment with innovative ideas. □

Integrating National Service with Commerce and Management Education

S. M. Waseem*

The National Education Commission (1964-66) rightly emphasised:

> "The destiny of India is now being shaped in her class-rooms. This, we believe, is no more rhetoric. In a world based on science and technology, it is education that determines the level of prosperity, welfare and security of our people. On the quality and number of persons coming out of our schools and colleges depends our success in the great enterprise of national reconstruction whose principal objective is to raise the standard of living of our people...."

Similarly, the Resolution of the Government of India regarding the Education Commission spoke of "the development of a national system of education rooted in the basic values and the cherished traditions of the Indian nation and suited to the needs and aspirations of a modern society."

Thus, our academicians, the educational administrators and the society as a whole, have to shoulder together the responsibility for creating conditions conducive to the fulfilment of the hopes and aspirations of our developing economy.

Purposive Education

The development of education in India after Independence has been taking new strides. The number of schools, colleges and universities has been increasing. Thus, we find that in August 1, 1975, there were 99 Universities and 9 deemed Universities. The enrolment of pupils at the University stage (arts. science and commerce) stood at 3.6 lakhs in 1950-51, at 8.9 lakhs in 1960-61, 22.1 lakhs in 1970-71 and at 31.7 lakhs in 1973-74. Further, looking to the inbuilt weaknesses in our socio-economic structure, we can safely infer that millions more would have come within the fold of education but these constraints kept them away and, therefore, busy elsewhere. However, it may be remarked that the ever-increasing numbers, though indicating a significant trend, do not necessarily lead us to assured goals. Because, education in India, if required to be purposive, needs dynamic direction and an objective planning. In short, we have to give new meaning and action-biased direction to our Indian education. "It is education alone", to quote German Philosopher Fichte, "which can save us from all the evils by which we are oppressed". The mass poverty, care-ridden faces and the widespread taboos and comparative socio-economic backwardness in many parts of the country, all indicate that educational reconstruction is *sine qua non* for growth and prosperity of this largest democracy of ours. Verily: "Education as a basic tool for surging ahead towards affluence, can add much to the existing opportunities and their fruitful exploitation for bringing about the maximum good of the greatest numbers."

Various Committees and Commissions appointed by the Government have been recommending productive and fruitful changes in the coverage and contents of our Indian education. This presupposes that the students and the teachers have to be necessarily involved in the task of educational reconstruction. However, merely saying (that) "Universities are the homes of intellectual adventures", would not suffice. Something positive and coherent has to be determined as goal of higher education in the country. Newman rightly emphasized in 1852: "If a practical end must be assigned to a University course, then I say it is training good numbers of society." Karl Marx also in his famous treatise Das Kapital asserted: "The education of the future will in the case of every child over a certain age, combine productive labour with education (**Unterricht**) and athletics **(gymnastik)** not merely as one of the methods of realising social production but as the only method of producing fully developed human beings." United States' President Trueman too is quoted to have said: "Our national policies must be administered by men of broad experience, mature outlook and sound judgement. But there is a critical shortage of such men—men who possess the capacity to deal with affairs of State .... We need men who can turn a group of specialists into working team and who can combine imagination and practicability into sound public programme. Men trained for this kind of administrative and political leadership are rare indeed." The experience of Britain too needs consideration. There "shortage of some goods and facilities of managerial skills, of technicians and of administrative personnel, combined with shortcomings in planning, have in many cases been the main limiting factors in development, with the result that projected developments have sometimes not been fully realised." Obviously, economic restoration in Japan during their **Meiji** era could become possible due to the fact that successful education could meet the needs of industry and trade. In view of our desire to climb up to new ladders of prosperity, we in India would have to bring pragmatism in our national education policy by bringing such changes in our courses and syllabi which can prapare our students to meet the socio-economic challenges of our surging new society. In short, the purpose of education and particularly higher education in India, must be very carefully determined. It needs a meaningful and dynamic push. We should, therefore, successfully strive to "provide a coherent picture of the universe and an integrated way of life." Commerce/Management ednication has to play a key-role in the realisation of these goals.

**Asstt. Professor, Regional Engineering College, Srinagar.*

Pragmatic Higher Education

With a view to give purposive and utilitative dimensions to our Indian education, several Committees and Commissions have been suggesting measures. **Deshmukh Committee** (1959-60), for example, suggested compulsory National Service for one year after the higher secondary stage for the students seeking entry in the first degree course of any Indian University. The **Saiyyidain Committee** also recommended the introduction of a voluntary National Service Scheme which should be extended imbibing varied and rich programmes of activities. The National Education Commission (1964-66) popularly known as **Kothari Commission** also recommended that work experience based on social service at school/college level should form an integral part of education. With a view to achieving the purpose of higher education including that of productivity, social and national integration, modernisation, social, moral and spiritual values and a knowledge of contemporary religions, the Commission suggested:

(a) 30 days' social service at lower secondary level in one or more stretches,

(b) 20 days' social service at higher secondary level in one or more stretches, and

(c) 60 days' social service at undergraduate level in one or more stretches.

However, in June 1967, the Union Cabinet approving the recommendations of a Ministerial Sub-Committee, made it obligatory for male university students to join any one of the three schemes for two years of their first degree course, namely: the **National Cadet Corps (NCC), the National Service Scheme (NSS), and the National Sports' Organisation (NSO).** Of the three, the NSO was to admit only students with sports' and games' proficiency. However, after consulting the Planning Commission, it was felt that this scheme (NSS) should be tried as a pilot project during the Fourth Five Year Plan. Thus, the scheme, introduced from October, 1969 on a voluntary basis, planned to cover about 2,00,000 students by 1973-74. The scheme has been in operation in all the States. The significance of the scheme for the study-service activities or to the students in our educational institutions, derives from (a) the sense of participation in the task of national reconstruction, (b) the role of education in nation building, and (c) the moral responsibility generated by the social context. The first two factors though being realised recently, have a great role to play in moulding the mind and attitudes of our emerging generations. The National Service Scheme plans to utilise students' leisure time in fruitful community service activities. Initially, it covered 38 Universities and institutions with a provision for enrolment of 40,000 students. In 1970-71 about 90,000 students, and during 1971-72 around 1,20,000 students worked under the scheme. By the end of the Fourth Five Year Plan, it was planned to cover at least 10 per cent of our students engaged in graduate studies. The utility of the scheme may be further guaged if one looks to the fact that students mixing with and helping the community around, get first hand information regarding the problems and prospects of socio-economic development. This prepares them to shoulder the responsibilities later on in their professional careers. "There is no denying the truth that there are instances in our world economic history when, in spite of a comparative abundance of raw material and other inputs including an adequate and cheap supply of labour, the economies continued to live in a vicious circle of poverty and under-development." The technical/managerial personnel must, therefore, be made available in increasing numbers. But, education divorced from realities has little or no role to play in the task of national reconstruction. The work-experience for the students, therefore, would enrich them greatly. Further, students drawn from different parts of the country and with different socio-economic and cultural backgrounds work together for a common cause. This helps in their re-orientation and self-fulfilment. Besides developing their competence as workers in a developing society, it helps develop their personalities as a whole. It is, therefore, no wonder that Union Ministry of Education and Social Welfare is giving ever-increasing importance to the scheme. The University Grants Commission had set up a group to suggest ways of integrating National Service with College Curriculum. Needless to emphazise that this would require a reconstruction and redrafting of the syllabi (including that of Commerce and Management) with a view to the achievement of the hopes and aspirations of both the students and the community around. Even if pursued on a voluntary basis, the students under the NSS should use their skills and knowledge for giving direct practical help to the people. NSS students from Commerce/Management Faculties can always take up some specialist activities to help the community around:

—Demonstrate cash value of new crops.

—Encourage improvements in cultivation methods.

—Explain the utility of the use of manures and fertilisers.

—Help promote village libraries.

—Help publicise local development programmes (by working with local people and specialists' groups, producing pamphlets and giving lectures etc.)

—Help in the field of marketing.

—Help establish cooperatives (including the credit consumers' cooperative societies).

—Introduce cash crops.

—Help the people to analyse the costs and benefits of their agricultural practices.

—Run courses for the village people (particularly on topics related to agriculture and development).

—Help build village bridges, roads, water supplies, irrigation canals, etc.

— Carry out reafforestation projects with the help of local young people.

—Help resolve commercial disputes.

—Help the village Head in the field of village administration.

—Help develop village social organisation.

The activities listed above, have been quoted to

(Continued on page 666)

PAU's Services to Farmers

Amrik Singh Cheema*

The Punjab Agricultural University, Ludhiana, a premier agricultural institution in Asia, came into being in 1962. It provides graduate and postgraduate instructions in agriculture, agricultural engineering, veterinary and animal sciences, home science and basic sciences and humanities.

The university has so far produced 2741 graduates in agriculture, 383 in agricultural engineering, 390 in home science, 705 in veterinary science and 129 in various basic sciences and humanities. More than 1850 candidates have earned their M.Sc. degree in various fields of specialization, 58 qualified for M. B. A. and 325 have successfully completed the degree of Doctor of Philosophy.

Thus beside others, it prepares farmers' sons and daughters to become scientists, teachers and extension educators in agriculture and allied branches.

Package of Practices

The university has the exclusive responsibility in the State for doing, both fundamental and applied, research in various branches of agriculture and has earned a distinction both from the scientists the world over and farmers of the Punjab. However, unless this expanding knowledge is accepted by the extension workers and through them communicated into the actions of the farmers, it will not be of much use. For this purpose all the agricultural officers of the State hold discussions with the experts of the university twice every year wherein they discuss new research findings and come to an agreed package of practices to be recommended to the farmers for various rabi and kharif crops. These agreed recommendations are printed both in English and Punjabi and are supplied through all the field extension workers, all other institutions concerned with the communication of new findings to farmers and are also sold to farmers. These books serve as a guide for the dissemination of all agricultural innovations to the farmers. Thus whatever may be the agency communicating agricultural knowledge to farmers, the recommendations remain the same.

Farmers' Fairs

This university has been a pioneer in introducing the idea of organising Kisan Mela and Kisan Diwas during the rabi and kharif seasons respectively each year. These functions have been a great success and of great educative value. There is much enthusiasm and keenness among the farmers to visit the university on these days to acquaint themselves with the latest advances in technology and to discuss their farm problems with the experts. Generally over 15,000 farmers visit the 2-day Kisan Mela and over 8,000 farmers visit one-day Kisan Diwas, which are held in the months of March and September respectively. Even since the inception of this university, more than two lakhs of farmers have visited the university on these days. On these occasions, seeds of new varieties of crops released by the PAU are sold to the farmers in small packets. This process has helped to spread new seeds throughout the State in the shortest possible time. During the Kisan Diwas which was held in September '77 seeds of improved varities worth over 3.75 lakhs, mineral mixture for animals for over Rs. 10,000 and university publications for more than Rs. 10,000 were purchased by the farmers.

Training Courses for Farmers

The university has earned the distinction of being the Asia's largest farmer-training centre. Every year over 250 training courses are organised involving over 8,000 farmers, dairymen, poultry keepers, young farmers, farm women and extension workers. Specialized training courses in farm machinery, poultry, dairy farming, piggery, fruit and vegetable cultivation and preservation are popular with the farmers.

A training course in practical education which is of 14-week duration and is conducted for the sons of farmers who are educated and are settled on farming has become very popular. Two to three courses under this programme are being held every year since 1965-66. Keeping in view the increased demand for this course, another centre for this course has been opened at the Vocational Agricultural Training Centre, Gurdaspur.

The university is also running a research-cum-demonstration project for organising farm youth clubs. Various organisational approaches and individual and group projects are being tried through over 50 such clubs for boys and 10 for girls in the district of Ludhiana. On the basis of the experiences of this project, it may be possible to recommend to the State Government to start this programme in the whole of the State.

To strengthen the extension education programme and to spread the latest farm technology to every nook and corner of the State, a scheme of crop schools has been launched by the university. Under this venture, specialized training is imparted to the

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**Vice-Chancellor, PAU, Ludhiana.*

farmers of a particular area where a particular crop is grown in abundance. To start with, a sugarcane school was organised at Jullundur where the latest methods of sugarcane cultivation were explained to the participating farmers. Similar schools were held at Kapurthala and Gurdaspur for rice cultivation and at Faridkot for pulses cultivation. This programme has been acclaimed by the farmers and as such a series of such schools is being organized now for all the important crops of the State.

Before the onset of a particular sowing season the extension education wing with close collaboration of the State Department of Agriculture arranges district level training camps to give on-the-spot demonstrations to the farmers regarding the seed-bed preparation, seed treatment, sowing, use of weedicides and chemical fertilizers, irrigation, etc. This not only gives an impetus to the sowing operations, but serves as training centre for extension workers also and thus improves their efficiency.

Farm Advisory Service

Under this scheme the university specialists fan out to the districts to offer advice to the farmers in their fields. There are university-level extension specialists who operate from the campus. There are also district level extension specialists posted in the districts. These are for agronomy, soils farm management, extension education, horticulture, plant protection and farm machinery. The Advisory Service works in close liaison with the State Department of Agriculture. This service has the responsibility for disseminating the latest findings in their subjects among the farmers. The experts of the Farm Advisory Service also organise a number of demonstration centres in each district where the package of practices of different crops is demonstrated. Another on-the-spot scheme in operation is the arranging of the national demonstration plots. These are laid out in the farmers' fields where intensive cropping patterns are adopted and all the recommended practices are followed to demonstrate the maximum yield potential of important crops of the area. Field days are also organized at the Demonstration Centres as well as the national demonstration plots. On these days the farmers of the surrounding villages are invited to witness good standing crops, important crop operations, plant protection measures and the demonstration of agricultural machinery.

Publications and Publicity through Mass Media

The Communication Centre provides a bridge between the university and the farmers through the press, radio, television and university publications. It has done a commendable job by introducing written material into almost every farm home in the State.

The Centre publishes two monthly journals—**Progresive Farming** (English) and **Changi Kheti** (Punjabi). These are being sold to the farmers at more than 500 distribution points in and outside the State through newspaper agents. Small extension bulletins published in Englise and Punjabi on various aspects of crop production, animal sciences and agricultural engineering are sold in thousands every year. Besides, two half-yearly books namely "Package of Practices for Kharif Crops" and "Package of Practices for Rabi Crops" and an annual digest called "Punjab Agricultural Handbook" have earned prestige for the university.

A close liaison is kept with the All India Radio, Jullundur by arranging experts' talks, preparing replies to farmers queries and sending weekly weather reports.

New Programmes

The university plans to conduct a soil survey of Punjab. On the basis of this survey, soil fertility charts of all the villages will be made. This will help increasing efficiency in the fertilizer use.

It also proposes to divide the State of Punjab on the basis of agro-climatic conditions. This would help in recommending right types of crop varieties and other farm practices.

A special follow-up programme for the young farmers who got training in scientific agriculture at the university. has been chalked out. Over a thousand such young farmers have been identified throughout the State and are being given guidance and training in order to help them, first to improve their own farming and then to help other farmers of their village in modernising their agriculture.

Efforts are also being made to establish mini communication centres throughout the State in order to take latest research findings as nearest to farmers as possible.

The university also plans to conduct research on the farming systems so that a specific technology could be evolved and recommendations made according to the farm-size, texture of the soil, climatic conditions, level of productivity and available resources of the farmers.

It is generally felt that the farmers of Ludhiana district have gained maximum benefit from the University while other districts don't have the access to it. It is, therefore, decided to hold Kisan Melas at the regional level also on the lines of Kisan Diwas. First in the new series is a one-day Kisan Mela held on October 1. 1977 at Bhatinda. These regional Kisan Melas would help delivering the new farm technology to the remotest corners of the State.

Thus the PAU during its brief existence, has not only done an outstanding job in improving crop and animal culture, but has also won the confidence and appreciation of the entire farming community in the State. Farmers look up to this University as a place of pilgrim, a perpetual source of new knowledge and technology, and an institution on which they could always depend for expert guidance for modernising their farming. □

CONVOCATIONS

Education and Development

(From our special correspondent)

For the first time in its 13 years' existence, Bangalore University dispensed with the formal function of an anual convocation to admit new graduates into various academic disciplines. Instead, it held a small function to present gold medals and prizes. There was no special invitee to address the convocation. The Governor of Karnataka, Mr. Govind Narain, in his capacity as Chancellor of the University, addressed the new graduates through the medal and prize winners.

Normally, the University spends at least Rs. 50,000 for holding its annual convocation which will be attended by 5,000 to 6,000 people. This time the Vice-Chancellor, Mr. T. R. Jayaraman, decided not to hold the formal convocation not only as a measure of austerity but in view of the great human tragedy that overtook the Andhra, Tamil Nadu and Kerala coasts recently as a result of the cyclone.

In his address, the Chancellor spoke of the complex problems facing universities. The most difficult of these was the expansion in enrolement. While such enrolment rose from 23,000 in 1901 to 225,000 in 1946, it soared in one decade alone, in the sixties, from 980,000 to 2.7 million. At the present moment it might be anywhere around 3.5 million.

India, Mr. Narain said, was registering the highest percentage of transfer of secondary-school leavers to colleges. The idea that secondary education should be effectively terminal was not succeeding very much. While there had been, in the course of years, a welcome expansion of scientific and technical education required for economic development, they were at a critical stage when they badly needed proper manpower planning and allocation of places in higher educational institutions as far as possible on the basis of identified demand in various fields of economic activity.

The Chancellor conceded that there were practical difficulities in imposing any kind of ceilings on admissions. The educational base had to be broadened and diversified and they should provide eligible people from rural areas and under-privileged classes with access to higher education.

Quantitative expansion, Mr. Narain continued, was posing problems with regard to the quality of education. It might be difficult to find the increasing funds that expansion consistent with maintaining proper standards would demand. Preference from the overall national point of view had to be given to primary education over university education. Expansion in an unplanned way led to imbalances in manpower availability and aggravated the problems of educated unemployment. "All in all this is a problem that is very much with us and for which we have to find a viable solution early," he added.

The Chancellor said that, meanwhile, they had to take all necessary steps to ensure that the country's educated manpower resources were fully utilised for national development. The Sixth Plan was likely to be largely employment-oriented and massive rural development programme was to be launched. The expanding economy would also create sizeable job opportunities. While he wished the new graduates found employment in keeping with their equipment, further efforts—governmental and private—had to be mounted to create abundant opportunities for self-employment.

There could be many fields for self-employment and adequate incentives had to be provided to promote them. Even the part-time employment schemes run by the University Vocational Guidance and Information Bureau had helped to predispose a number of graduates in that direction.

The Chancellor was very much conscious of the problems of the graduates of the year. Though they were not there at this function, they were not out of his mind. They were very much in his thoughts. He said : "While I am fairly certain that the graduates who have won distinction will find suitable employment without much delay or difficulty, I am deeply concerned about the fortunes of the others. I would like to appeal to them to think of self-employment in the event of their not being able to secure employment under Government or elsewhere. It is only if all the young men and women of talent engage themselves in productive employment that we may achieve rapid economic progress."

Mr. Narain said that they were engaged in the great adventure of nation-building. What they had achieved so far while significant enough, was not much compared with what remained to be achieved. There was still widespread destitution and deprivation. The bulk of the people were still illiterate. Insanitation and disease were still to be conquered. There were sections of society which suffered from disadvantages that needed to be raised to a level of equality with the rest. A fully free, democratic and socialistic society was yet to be developed.

There was a socio-economic transformation that was under way which needed to be accelerated. The young today, particularly like the new graduates, had to act as agents of change and should develop the appropriate skills and attitudes. The Kothari Commission report rightly called for an educational revolution that would harness our human resources for rapid socio-economic development.

In the context of a massive and many-sided development under way in the country, Mr. Narain felt the new graduates had still an "exciting task" to perform, a goal and a purpose that could sufficiently give meaning and direction to their lives. He appealed to the young graduates to become "dedicated soldiers" in the fight against poverty, ignorance and disease and to play an effective role in the social and economic transformation of the country.

The spirit of democracy, the Chancellor said, demanded freedom of thought and expression. It was necessary that in universities, which were the laboratories and proving ground for the country's new crop of intellectnals, independent thinking was encouraged and a spirit of inquiry promoted. Those who came out of universities inevitably provided leadership in politics, in the professions and in industry and commerce. They would be more or less intimately concerned with public affairs and issues. Therefore, they had to develop their critical and creative faculities so that they could make rational and free choices and take balanced, mature and sensible decisions. "Such freedom of thought when combined with a genuine empathy with the millions of our brothers and sisters will enable the products of higher education to contribuie effectively to the development of the country."

Restructuring of Educational System

Prof. Satish Chandra, Chairman, University Grants Commission, delivered the convocation address at the S.N.D.T. Women's University on November 30, 1977.

He said that there had been a great deal of discussion in the country regarding the restructuring of the educational system. The shortcomings of our educational system are generally well-known. There has been too much emphasis on learning by rote, and on verbal skills, but not enough, on skills of value for those who have to work and earn by their hands, nor participation in activities, such as physical education, cultural activities, social service or extension work has been given enough emphasis. On the other hand, the education has been examination-oriented; and it fails to develop qualities of organisation, co-operation, sympathy for the weaker sections. Secondly, there has been too much emphasis on the formal system of education to the neglect of education for the masses. The present system caters to the needs of those who can afford to study on a full-time basis, but pays little attention to the needs of those who can and must work to supplement the family income, and to carry out various chores of the family and the farm. It is true that we have been able to develop good quality institutions which are in no way inferior to the best institutions anywhere in the world but to which access is available only to students drawn from the upper and the middle classes. Recently, a select number of students from scheduled caste and scheduled tribe families have been provided limited accesses to these institutions. But this has not changed the position of a large majority in this category. In reality we have a dual system of education in the country. We have one set of institutions where standards are high and cater to the upper and the middle classes and the second set of institutions where standards are low and are for the large majority. This disparity obviously has its root in our existing social and economic system. It is true that education by itself cannot change the social system. However, it can and must create a climate of opinion which would promote changes in the desirable direction. In this situation, higher education has an important role to play. Universities and colleges claim community of men who have the talent and capacity to think on their own, and thus have a responsibility to play a significant part than many others in creating a public opinion. Also, it provides training to people in various walks of life, including those who teach at the school lavel. That is why it would not be wrong to say that we ought to begin by changing the values, objectives and outlook at the level of higher education. As at present, we take delight in passing on the blame to someone else. University teachers blame the secondary teachers, who, in their turn, blame the primary teachers. In this state of confusion, the politicians and the educators blame each other. However, this process of passing the buck takes us nowhere.

It is the responsibility of the U. G. C., the highest agency in the field of higher education for policy formulation, to provide means for exchange of ideas and for disseminating them. It has done some thinking in the matter and has already submitted a note to the Government for development of education in the next ten years or so.

Today universities are being asked to discharge responsibilities that were not within their ambit of operation earlier. To cite only two, training people for various middle-level professions and educating the adults. He said he was glad that the S.N.D.T. Women's University had set up a women's polytechnic so that it can train women for joining various middle-level occupations. The universities are also being asked to play a progressively larger role in the training of adults - that is—those who may not have had the benefit of formal college education or have dropped out due to various reasons, or who want to add to their professional competence. The concept of adult and continuing education in our country is still new. So far, these programmes have been started in only a few universities. Generally they are confined to catering to the needs of the upper and the middle classes. If adult and continuing education has to become a mass-movement universities will have to find ways and means of drawing in their programmes other sections, especially teachers, housewives, workers and disadvantageous groups such as slum dwellers etc. In these programmes, obviously the needs of the 80% of our rural population must be kept in mind. For the purpose, a linkage between programmes of adult and continuing education and the National Service Scheme might be necessary. These are concepts which need a great deal of study and research before they can be put in practice.

There is a paucity of systematic study in our country as to how public opinion is formulated and given expression. Public opinion to a greater extent, takes its colour from the opinion expressed by women. For one, women are more vocal than men in giving expression to their views. Also it is well-known that while man proposes, it is the woman who disposes. Men may act as revolutionaries or starry-eyed idealists but when it comes to brass tacks, it is the 'little woman' who makes the decision. In building public opinion on social evils, women can play a significant part. Unfortunately sometimes women are the loudest in supporting outmoded attitudes and values which have the effect of denying women, in fact, the equality they have been assured by law. Thus, all too often the educated woman who does not give into the family pressure of conformity, or does not look upon her husband as a God, is given a poor character in our books, novels, films and plays. It is upto the universities to create a wind for a change and bring about creation of attitudes fitting a society on equality of sexes.

Even in a limited sphere such as education, where public opinion insistently demands radical change, when it comes to implementing reforms, somehow conservative ideas come to the surface. This has happened in such spheres as reform of the existing system of examination, more flexibility in courses through the semester system and restructuring of courses. How can this situation be changed ? No easy or quick solutions can be prescribed. However, it would be desirable if some universities were to undertake a serious study of the reasons for this phenomenon and examine whether it is the structure of the universities or innate conservatism or certain sociological factors which are responsible for this duality of attitude.

Social Education Day

(From our special correspondent)

An All-India Social Education day was observed in Calcutta on 1st November, 1977. Dr. P.C. Chunder, Union Education Minister, while inaugurating the conference, said that the drive for literacy should take the form of a national movement. Under the new education plan, priorities will be given with special stress on primary, adult and non-formal education as a means of eradicating illiteracy from the very roots of our society. He advised the States to set up Boards of Adult Education at the State level as well as the district level in line with the National Board for Adult Education at the Centre to tackle the problem. He said that out of a total number within the age group of 15 to 45. twenty-three crores were illiterate. Referring to the drop-outs he said that about 40% of children remained in school after the sixth class. This situation is atrocious and should be remedied at all costs at the earliest.

Dr. Chunder emphasised the need for a definite motivation in spreading education. One had to lay stress on education at par with profession. He advocated a policy of career-wise study. The farmer should be made to feel that the particular education that he is being given will help him in his profession. Correspondingly the farmer should feel the need for such an education and this form of education will go hand in hand with agrarian reforms. Dr. Chunder expressed the hope that the education would be kept out of the reach of politics and positive approach would help us to out-wit the problems which were very well worked out but could not be implemented. He said that the Planning Commission had decided to allot Rs. 180 crores for education which were ten times higher than the previous allotment.

Prof. Sambhu Ghosh, Minister for Higher Education, West Bengal, in his presidential address laid emphasis on reducing the drop-outs and eradication of illiteracy. He pleaded for establishment of libraries in villages which could help maintain the continued interest in education and fulfil the other reforms of the educational needs.

Mr. Partha Dey, Minister for Primary Education, West Bengal, referred to the mass education as a remedy for mass illiteracy. He wanted to introduce basic compulsory education for the study of science and arts to make the people aware of their existence. He was for a system which will arouse consciousness and understanding of life which would ultimately help them to solve problems in a natural way.

Dr. P.C. Chunder also made an announcement that Rs. two crores has been sanctioned for Calcutta University for increasing inter-institutional facilities like construction of lecture halls and hostels in the metropolitan area. The university would also receive another sum of Rs. one crore for its campus at Salt Lake.

CAMPUS NEWS

Meerut Seminar on Physical Education and Sports

The Meerut University organised a seminar on Physical Education and Sports recently. The seminar was inaugurated by Prof. Satish Chandra, Chairman, University Grants Commission. He emphasised the need for mass participation in games and sports at the university and college levels and felt that participation in sports should commence even from early stages of childhood. He wanted specialised sports institutes to grow where studies and sports could go together. He pointed out the role of incentive and awards in the field of sports and considered sports as service to the community.

Prof. B.S. Mathur, Vice-Chancellor, Meerut University, in his presidential address suggested that there should be a full-fledged Department of Physical Education at par with any other education department headed by a Professor of Physical Education. He urged the Central and State Government and the University Grants Commission to provide the ample financial assistance for the development of sports activities in universities.

A number of papers were presented at the seminar. Focus of discussion centered around Psychology of Sports, Role of the Association of Indian Universities, in the development of sports, Physical Education and Sports in Universities and Colleges, Physical Education as Teaching subject at degree levels and B.Ed./M.Ed. courses and Role of incentives and awards in Physical Education. Smt. Malti Sharma, Deputy Education Minister of Uttar Pradesh gave the valedictory address. She spoke about the role of the professionals in the field of Physical Education and assured her cooperation in providing all support for development of physical education and sport activities in the State of Uttar Pradesh.

Shri G.P. Gautam, Sports Officer, Meerut University, thanked the participants which included delegates from the State Universities and colleges and the office bearers of various sports organisations.

The following recommendations were made at the seminar:

1. The expenditure incurred on the maintenance of play fields, equipments, salaries of peons, clerks should be brought under as legitimate expenses for purpose of Grant-in-Aid purposes.
2. Leave for Higher Education for the Teachers in Physical Education should be given on the same terms and conditions as done in the case of other teachers as approved by UGC.
3. Lecturers be appointed for Teaching Physical Education activities and the teacher-pupil ratio which is at present 1 to 1000 needs revision and should be converted to 1 to 500 with the condition that at least one teacher at Degree level be appointed where the strength does not exceed 500 students.
4. Pay scale of Physical Education Teachers should be at par with other subject teachers.
5. Those who are working in the field of Physical Education in the Universities and Colleges must be designated as Lecturers in Physical Education instead of Physical Director / Instructor/ Sports Officer/Supdt. of Physical Education, etc.
6. (a) The status of Physical Education Teachers should be at par with other subject teachers in terms of service conditions.
   (b) Lecturers of Physical Education be given representation in all the decision making bodies of the University/ College.
7. Physical Education should be introduced as one of the subjects at the Degree and Postgraduate level. In each training institution (B.Ed./ M.Ed.) there must be minimum of one lecturer in Physical Education teaching Physical Education as a optional paper.
8. The recommendation of the U.P. University Vice-Chancellor's Conference held in December 76 regarding the upgrading of present Diploma Courses to Bachelor's Course in Physical Education in some of the Universities be implemented and efforts should be made to start Postgraduate Courses in Physical Education in Uttar Pradesh Universities.
9. Incentives to student as well as to teachers in Physical Education should be given as follows:
   (a) 5% marks weightage may be given at the time of admission to those who have represented Region/State/ University, besides 5% weightage for admission in hostels.
   (b) Attendance relaxation for the actual days of absence on account of participation may be

given to the students who are participating in Inter Varsity/State/National / International and all sports coaching camp.

(c) Freeship should be awarded to the students who have represented State / University/ Nation.

(d) Some financial assistance in terms of scholarship may be given by the University/College to those who are outstanding in sports.

(e) A 1:5 ratio of seats may be reserved for outstanding sportsmen at the time of service and appointments.

(f) All those who have participated in All India School games/Mini-national/National should be given direct admissions in Medical and Engineering Courses provided that they have secured 50% marks in their qualifying examinations.

10. Professional teachers in Physical Education should be given leave with pay and other benefits for enhancing their qualifications as well as for research work in their discipline as in the case of other disciplines under teacher fellowship scheme of U.G.C.

11. Committee be formed comprising Physical Education Teachers to draft the minimum programme as proposed under resolution mentioned above.

12. Minimum programme be classified under four or five groups as per facilities existing in the College/University.

13. Instructional staff be provided for running the programme according to the groups.

A sample grouping of activities in Physical Education may be as under:

(i) Yoga-Asans and other related activities.

(ii) Gymnastic and other related activities.

(iii) Games and Sports.

(iv) Track & Field events.

(v) Acquatics and other related activities (where facilities exists).

14. Lecturers be appointed for teaching Physical Education activities according to the groups proposed above.

15. A faculty of Physical Education be formed on lines that of other branches of sciences.

16. A Physical Education Committee consisting of the following be formed in each College/University for the proper functioning of the mass programme of Physical Education.

Chairman:

Vice-Chancellor/Principal.

Secretary:

Senior Lecturer in Physical Education.

Members:

(i) All Lecturers of Physical Education in case of Residential Universities/Colleges. In case of affiliating Universities all Physical Education Teachers.

(ii) Five Senior Players Representatives of different groups.

17. Implementation of scheme of N.S.S. in College/Varsity may be worked out by the Department of Physical Education.

18. The Universities/Colleges must have sufficient playgrounds in terms of Deshmukh Committee recommendations. It should be made a pre-condition for granting affiliation in case of new colleges.

Proposed animal genetic research centre

Dr. M.S. Swaminathan, Director-General, Indian Council of Agricultural Research, inaugurated the two-day symposium organised by the Indian Dairy Association at the National Dairy Research Institute, Karnal. He said that the Council had appointed various committees to work out the details for implementing the recommendations of the National Commission on Agriculture. Some of the receommendations may be implemented from April next if the Government approves them. One of the recommendations related to the setting up of a animal genetic research centre which will be used for collecting, maintaining and preserving the native breeds of animals. Dr. Swaminathan said that there was also a proposal to set up a goat research institute to develop the country's goat population. A farm near Doon, known as the National Goat Research Centre, has already been set up. He said that though India was the custodian of the largest buffalo population in the country yet buffalo research had not received sufficient attention. He said that the East Asian countries were going in a big way to undertake buffalo improvement programmes. He desired that a buffalo research institute should also be set up in India.

Dr. Swaminathan wanted that research on an animal nutrition programme, both on modern and traditional methods should be intensified and urged the scientists to work out what types of nutrition programmes should be taken up to help cattle in the cyclone hit areas.

A task force of scientists could evolve a strategy for combating such distress to crops and cattle in the cylone prone coastal areas and the arid zones in the country. He felt that farmers in these areas were hesitant to invest more in agriculture because of the risk involved. Dr. Krishna Rao, Vice-Chancellor of Andhra Pradesh Agricultural University has agreed to undertake to develop a scientfic approach to the whole problem.

Dr. Swaminathan regretted that women in India have been neglected in the extension training programmes and called for the setting up of mobile training teams to train women in their homes.

PM proposes 8+4 system of education

Dr. P.C. Chunder, Union Education Minister, addressed the conference of Vice-Chancellors of six universities of West Bengal in Calcutta. Dr. Chunder said that he wanted to change the priorities in educational system by allocating more funds for primary and adult education sectors. The Government was considering a report to be sent to the State Governments recommending teaching by college students as a part of carriculum. The idea was to involve the students in adult literacy programme. In the next five years some 10 crores of people in the age group of 10 to 35 would be covered by the adult education programme. For this, involvement of State Governments was necessary. He had therefore asked the State Governments to set up Adult Education Board at the State and district levels.

The Government was also considering a report suggesting the reduction of book loads and subject loads on students. It had been suggested in the report that subject load should be reduced by about half and socially useful work be included as a subject to involve students in such work. He informed that the Prime Minister had suggested the replacement of the present 10+2 by 8+4 system of education which was being considered.

The Education Minister praised the Government of Kerala for its emphasis on education as reflected by the expenditure of 40 to 46 per cent of the State revenues on education. As against this, most other State Governments including West Bengal spent only about 20 to 22 per cent. It is also more regrettable because the Central funds for education are not fully utilised by several States.

Mr Jyoti Basu, the Chief Minister of West Bengal, expressed a desire to review the entire education policy. He said that it was no use accusing students only for mass copying since he felt that the educationists were also responsible for this state of affairs.

Asian centre for science education

Prof. S. Bhagavantam, President, Committee on Science and Technology in Developing Countries (COSTED) while addressing the Asian Regional Workshop on Physics Education at Madras announced the establishment of Asian Regional Centre for Science Education by COSTED with financial support from several international agencies. He said that one of the major activities of the COSTED was towards the development of science education at various levels. Special methods for this purpose were required for educating people in the field of science since 80 per cent were illiterate. Only audio-visual methods could be effective in this situation as they would have proper impact on large masses of people. Educators with set views had to change their outlook in order to help in this process.

Prof. Bhagvantam also said that COSTED would act as a catalyst in accelerating the process of rethinking and re-orientation in the field of science teaching. He was glad that the Indian Institute of Technology was extending all facilities and expertise to this venture.

Dr. V. G. Podoinitsin, Director, UNESCO, inaugurated the workshop. He emphasised the role of the Unesco in organising regional and international conferences and seminars for discussing new approaches to the teaching of basic sciences. He said that the Unesco had given aid under the U.N. Development Programme for the establishment of centres for advanced study in several departments of various universities. Similarly, the Unesco had assisted the NCERT with a team of science teaching experts in the improvement of curriculum, production of scientific textbooks and teacher guides. Dr. Podoinitsin said that the Unesco was interested in building up all indigenous scientific and technological infrastructure in developing countries.

Prof. B. Ramachandra Rao, Vice-Chairman, University Grants Commission, expressed the hope that the Exension Education Unit proposed to be established would be a non-profit organisation and would collaborate with the University Leadership Project of the Commission without duplication of efforts. Prof. R.G. Narayanamurthy, Director of the IIT, Madras, said that it was good that the Extension Education Unit would become self-sufficient in a period of three years.

The seven-day workshop was attended by more than 75 delegates who came from various universities in India and other Asian countries like Malaysia, Singapore, Sri Lanka, Bangla Desh, Nepal and Thailand.

Ideas of History

Prof. Nurul Hasan, former Union Education Minister inaugurated a three-day seminar on the ideas of history, sponsored by the Indian Council for Historical Research at the University of Bihar, Muzaffarpur. Prof. Hasan said that the ideas accelerate social and material change. The material interests had also shaped the formation of ideas in society. Referring to the social conditions in different stages of history, he said that casteism played a minor role on the eve of last two general elections in the country. But it was more so in Bihar. He said that the ramnants of zamindari system are still existing in Bihar. The evasion of tax payment and the practice of pairvis had existed since the time of Akbar's regime.

Prof. Bipin Chandra of Jawaharlal Nehru University, presided over the conference. Prof. Grover of the ICHR in his report referred to the achievements of the Council in the field of historical research. Dr. Sitaram Singh briefly outlined the contributions made by the University of Bihar in the development of historical studies in the State of Bihar.

No imposition of UGC scales

While talking to a delegation of the All-India Federation of University and College Teachers Organisation, the Prime Minister Mr. Morarji Desai said in New Delhi that he would not force any State Government to grant to college and university teachers the pay scales recommended by the University Grants Commission. He was against making any in-roads into the powers of the State Governments.

The Prime Minister wanted the teachers to work much more than what they were doing at present. He wanted the long vacations to be curtailed and wanted them to play an important role in the development of the country. The entire education system requires to be changed. He said that he was holding discussions and consultations about the various problems that have arisen due to the introduction of the 10+2+3 system.

Part-time classes for dropouts

Delhi Administration is taking steps to make 125,000 people literate in 1978-79 and for this purpose 1000 adult literacy centres are to be opened. The project will cost the Administration about Rs. 35 lakhs. This announcement was made by Shri Kidarnath Sahni, Chief Executive Councillor of Delhi. He said that the administration of adult education will be strengthened with an additional Director of Education who will be assisted by two Assistant Directors and sufficient supervisory staff. A well-equipped mobile library would be commissioned which will go to various parts of Delhi.

A survey has been conducted by the Directorate to identify pockets of illiteracy in Delhi so that efforts could be concentrated in these areas. In the meanwhile the Directorate of Education has proposed to open part-time classes both for boys and girls in areas where the rate of drop-outs is high. According to Mr. Sahni the rate of drop-outs in Delhi schools is between 30 and 36 per cent.

Trends in ISM enrolments

A study of the state-wise origin of the students admitted to the first year course of the Indian School of Mines over the past five years shows interesting results. The analysis has shown that an average of 36 per cent of the students come from the State of Bihar. The figure was 39 per cent in 1974, 38 per cent in 1975 and as high as 51 per cent in 1977. The analysis also indicates that an average of 38 per cent of the students come from the State of West Bengal, the figure being 44 per cent in 1975, 54 per cent in 1976 but a rather low 19 per cent in 1977. About 7 per cent of the students come from the North-Eastern part of the country like Assam and 6 per cent from the Uttar Pradesh. Overall, about 85.5 per cent of the students hail from Eastern India, only 9.5 per cent from the North-Western India and only 5 per cent from the Southern States, including Maharashtra and Madhya Pradesh.

Better students from outside the eastern region do not come to ISM perhaps because of equally good facilities for higher education nearer their homes. Also the situation in Institutes of Technology is similar with the nationalisation of the major sector of the mining industry, the emoluments of the senior officials have gone down considerably; and this too perhaps has had an effect on the number of good students from outside the eastern states coming to the School.

Borlaug Award

The Borlaug Award for 1977 has been shared by Dr. J.S. Kanwar, Soil Scientist and Associate Director at the International Crop Research Institute for semi-arid tropics, Hyderabad and Dr. G.S. Khush, Rice Breeder and Head of the Plant Breeding Department at the International Rice Research Institute, Philippines.

The award carries a cash prize of Rs. 10,000 and a gold medal. It was instituted by the Coromandel Fertilizer Limited in honour of the Nobel Laureate, Dr. Norman Borlaug as part of the firm's educational effort to encourage and recognise Indian scientists for outstanding research and service to agriculture. A panel of eminent agricultural scientists select these awards every year.

Dr. J.S. Kanwar has distinguished himself in the study of soils. His long involvement in the field of soils has led to notable contribution to soil chemistry and soil fertility which has provided the base for practical programmes of soil management of fundamental importance to agriculture. His works in the area of reclamation of saline-alkali soils and dry farming is considered notable. Dr. Kanwar had been the Deputy Director-General in the Indian Council of Agricultural Research.

Dr. G.S. Khush is noted for his work in rice breeding. He pursued postgraduate studies in genetics at the University of California, USA, where he obtained the Ph. D. degree. His work as research scientist at the University of California for seven years, particularly on the cytogenetics of tomatoes is considered significant. As a plantbreeder in the field of rice, Dr. Khush acquired a pre-eminent place. He heads the Plant Breeding Department at the IRRI in the Philippines. Ten high-yielding varieties of rice developed under Dr. Khush's leadership are now planted over an estimated 12 million hectares all over the world. These varieties, in addition to their high yielding potential, are resistant to at least five major insects particularly the draded brown plant hopper. Dr. Khush has done remarkable work in the field of genetics, identifying genes for resistance in rice and has incorporated them in the highyielding varieties. He has the distinction of being invited by the People's Republic of China to observe the rice research and production systems in that country.

Instrumentation centre for Kashmir

The University Grants Commission has sanctioned Rs. 1.80 lakhs for the establishment of Service and Instrumentation Centre at the Kashmir University. The centre would repair and service instruments of the various departments of the university. It will also design and fabricate attachments for the existing equipments and also suggest suitable modifications. The training course for scientists and technicians in the use of different instruments would also be undertaken. The centre also seeks to provide analytical services and will carry out research and development programmes.

UNESCO Award

Mrs. Kamaladevi Chattopadhyay, prominent freedom fighter and social worker, has been named for the 1977 national UNESCO award for rendering distinguished services to the cause of promotion of Unesco activities in India. She was one of the founders of the All-India Women Conference and was closely associated in the national struggle.

ISM golden jubilee lecture

Shri Ranchor Prasad, former Chairman of the Indian School of Mines, Dhanbad delivered the golden jubilee lecture this year. His theme was: 'Some Thoughts on Mineral Development Policy'. He dwelt on the several problems relating to mineral development such as difficulties of formulating and implementing an appropriate mineral development policy, the damage wrought by misinformed criticism, securing adequate financial inputs, pricing policy with regard to the mineral products, provision of adequate royalty to the State Sector for mineral development of the State and deployment of appropriate technology and manpower. He also advocated the export of processed or semi processed products in preference to raw material as a means of optimising the export effort.

Shri Prasad discussed the constraints in the matter of exploitation of mineral resources, including lack of adequate exploration data and stressed the need for long-term planning to optimise the resource position of the country.

The lecture was attended by ISM faculty and students and several executives of the BCCL. They took keen interest in the discussion of an issue of vital relevance to national economy covering the whole gambit of development of mineral resources.

Development of Kashmiri

A two-day research seminar on the development of Kashmiri as the regional language of the State of Jammu and Kashmir was held at the University of Kashmir at Srinagar. Delegates from all Kashmiri-speaking areas of state participated. Prof. J.L. Koul presided over the inaugural function. He appreciated the efforts put in by the Department of Kashmiri towards the development of the language. He said that the department will be offering postgraduate courses in Kashmiri language from 1978.

ICAR awards for farm scientists

The Indian Council of Agricultural Research (ICAR) has selected seven scientists for the Jawaharlal Nehru Award for their outstanding post-graduate research in agriculture and animal sciences for 1977.

The scientists are: Dr. Ram Niwas (Agronomy), Dr. Mruthyunjaya (Agricultural Economics), Dr. D. R. C. Bakhetia (Agricultural Entomology), Dr. Vijay Pal Sing (Plan Breeding and Genetics), Dr. Nawab Ali and Dr. Sewa Ram Verma (jointly—Agricultural Engineering) and Dr. V. K. Srivastava (Animal Sciences).

The award given annually, carried a cash prize of Rs. 5,000 each.

Dr. Yash Pal Abrol (Plan Physiology) and Mr. S. H. Patil (Plant Breeding) will jointly share the Dr. R. D. Asana Endowment Prize of Rs. 2,000 for the triennium 1974-77.

Dr. Kalayya Krishnamurthy, head of the department of University of Agricultural Sciences, Bangalore will be given the Dr. P. B. Sarkar Endowment Prize of Rs.5,000 for the triennium 1974-77 for his outstanding contributions to Agronomy.

Four agricultural scientists have been nominated for Dr. Rajendra Prasad Purskar for 1976 and 1977 for their standard works in agriculture and animal sciences written in Hindi.

The first prize for 1976 will be awarded to Mr. Ram Prakash Saxena, assistant professor, department of agricultural engineering in the Govind Vallabh Pant University of Agriculture and Technology, Pantnagar for his book "Beej Sansodhan". Dr. Shiv Darshan Rai, project co-ordinator, All-India Co-ordinated Project on Forage Production will be given the first prize for 1977 for his book "Chara Utpadan Avam Parikashan".

The second prize for 1976 will be given to Dr. Binda Prasad Khare, associate professor in the department of agricultural entomology at the Govind Vallabh Pant University of Agriculture and Technology, Pantnagar, for his book "Khadyanna Bhandar Avam Hanikarak Jeeva Niyantran". The second prize for 1977 will be given to Dr. Vishnu Mohan Bhan, assistant professor in the department of agronomy, Govind Vallabh Pant University of Agriculture and Technology, Pantnagar, for his book "Kharpatwar Niyantran".

Dr. Rajendra Prasad Puraskar was instiuted by the ICAR for original writings in Hindi.

The first prize carries a cash award of Rs. 5,000 and second prize a cash award of Rs. 2,500.

Mr. Gorakh Nath Singh and Mr. Din Dayal Dohra jointly share Kheti Puraskar for 1976-77 far their article on agriculture entitled "Uttar Pradesh Mein Bundelkhand Ki Banjar Bhumi Aur Uska Prabandh". Dr. Vishwa Nath Tripathi and Shri Asok Kumar have been selected jointly for their article in animal sciences entitled "Labhakari Dhandha Dairy Udyog" for 1976-77.

Personal

1. Shri V.R. Mehta, Vice-Chancellor, Gujarat Agricultural University, has been elected President of the Indian Agricultural Universities Association for the year 1977-78.
2. Dr. Har Swarup has been appointed Vice-Chancellor of Jiwaji University.
3. Smt. Sushila Domal has been appointed Vice-Chancellor of Garhwal University.
4. Dr. S.S. Khanna has taken over as the Acting Vice-Chancellor of Kumaon University.

THESES OF THE MONTH

A list of Doctoral Theses Accepted by Indian Universities

PHYSICAL SCIENCES

Mathematics

1. Mehta, Rekha Devendralal. Tensor product of bananch algebras and algebras of functions. Sardar Patel University.

2. Mohapatra, Prafulla Chandra. A study of absolute summability and its application to fourier series. Sambalpur University.

3. Page, S.S. Some problems in summability of infinite series. Bhopal Vishwavidyalaya.

4. Potey, Satyanarayan Rao Krishna Rao. Problems in nonlinear continuum mechanics and thermoelasticity. Marathwada University.

Statistics

1. Shah, Dhirubhai Keshawlal. Further contributions to attributes acceptance sampling plans. M.S. University of Baroda.

2. Shah, Y.K. Certain inventory models for deteriorating items. Gujarat University.

Physics

1. Deshpande, Dilip Abasaheb. Dielectric, ferroelectric and other properties of some ABO3 compounds. Nagpur University.

2. Deshpande, Prabhakar Vaman. Luminescence of thalium-doped sodium chloride phosphors. M.S. University of Baroda.

3. Gupta, Kamlesh Kumari. Geophysical implications of total electron content over Delhi. University of Delhi.

4. Ray, Bibha. On the absorption of ultrasonic energy in pure liquids by method of steaming. University of Calcutta.

5. Trivedi, Mira Dhirajlal. Study of tellurium single crystals. M.S. University of Baroda.

Chemistry

1. Bux, Munir. Investigation on heterocycles. Awadhesh Pratap Singh University.

2. Chandra Singh, U. Study of reactions in solutions: Some novel features in the aqueous peroxodisulphate decomposition including metal ion catalysis and polymerisation. Madurai University.

3. Chavan, Manohar Baliram. Photometric determination of some transition elements. Shivaji University.

4. Gawande, Prabha Shankar. Studies in oxygen heterocycles. M.S. University of Baroda.

5. Ghosh, Dipankar. Studies on pozzolamic properties of some Indian flyashes. University of Calcutta.

6. Gurjar, Mukund Kesheo. Organic reaction mechanisms: Carbanion reactions. Nagpur University.

7. Ishwar Singh. Analytical investigations on heterocyclic azo dyes. University of Delhi.

8. Jain, Rakesh Kumar. Programmed current chronopotentiometry: A theoretical study. University of Delhi.

9. Joginder Singh. Conversion of cyclortenol into buxus alkaloids. M.S. University of Baroda.

10. Kakar, Yoginder Kumar. Analytical aspects of dithiocarbamates. Vikram University.

11. Mittal, Ishwar Prakash. Studies on the preparation and characterisation of N-aryl substituted dithiocarbamate complexes of some metals and bis (cyclopentadienyl) Ti (IV). University of Delhi.

12. Muhamed Kasim, S. Studies on the polyphenolic natural products of some plants of South India. Madurai University.

13. Mutreja, Hukam Chand. Studies of some heterocyclic compounds. University of Delhi.

14. Patel, Rajendrabhai Dadabhai. Synthesis and characterization of thermally stable polymaleimides and polybismaleimides. Sardar Patel University.

15. Patel, Rameshbhai Manilal. Studies on synthetic resins: Thermal behaviour of hydroxybenzoic acids, formaldehyde resins. Sardar Patel University.

16. Pattanayak, Manomohan. Study of metal ions by paper electrophoresis. University of Calcutta.

17. Raina, Mohan Lal. Chemical investigation of Datura quercifolla, piper peepuloides and piper nigrum. University of Kashmir.

18. Rama Rao, G.A. Physico-chemical study of metal complexes: Use of 1, 2, 3, 4 cyclopentane tetracarboxylic acid as a ligand. Vikram University.

19. Sarasukutty, S. Studies on some complexes of iron (III) and manganese (III). University of Kerala.

20. Seshadri, Venkatachari. Chemical study of some Indian medicinal plants. University of Delhi.

21. Sindhu, Raghubir Singh. Polarographic studies on metal chelates of some disubstituted pyridines. University of Delhi.

22. Siva Sankara Rao, Tarigopula. Chemical study of some Indian medicinal plants. University of Saugar.

23. Turel, J.M. Potential antituberculosis compounds: 4 thiozolidinone derivatives. South Gujarat University.

Engineering & Technology

1. Abdul Mubeen. Fracture of a beam when a small fatigue crack exists ahead of a notch. I.I.T., Kanpur.

2. Ramakrishna, M. Collision induced dissociation of shock heated diatomic molecules. I.I.T., Kanpur.

3. Rao, K.C. Solution of DPS optimal control problems and TPBVP'S using finite element approximations. I.I.T., Kanpur.

BIOLOGICAL SCIENCES

Biochemistry

1. Mitra, Satyabrata Jitendranath. Studies on the biochemistry of parasitic amoeba. Nagpur University.

2. Narang, Avtar Singh. Studies on salt-soluble proteins of mungbean, phaseolus aureus. Punjab Agricultural University.

Botany

1. Diwanji, Banast Bhalchander. Embryological studies in the gramineae. University of Indore.

2. Purna Chandra Rao, Deverasetti. Pathological and physiological studies of fruit rot of guava, psidium guajava Linn caused by phomompsis destructum Rao, Agrawal & Saksena. University of Saugar.

3. Rawat, Madhusudan. Studies on plants remains in coal of Jatraj, Seam, Korba Coalfiled, M.P., India. Bhopal Vishwavidyalaya.

4. Setia, Ramesh Chander. Morphogenetic studies in gum producing plant cells. Sardar Patel University.

5. Subha Rao, Muktinutalapati Venkata. Cytogenetic studies of B-chromosomes and desynapatic mutants in pearl millet, pennisetum typhoides S & H. Andhra University.

6. Tandon, Raj Krishna. Ecological investigations on oropetium thomaeum (Linn F.) Trin. University of Delhi.

Zoology

1. Ambica Devi. Taxonomy and ecology of parasitic protozoans of birds and an experimental study of some malarial parasites. Kakatiya University.

2. Ananad, Ashima. Reflex stimulation of aortic chemoreceptors and role of vascular factors. University of Delhi.

3. Chandrasekharan, K. Studies on the biology, pathogenicity and treatment of important nematodes of domestic ducks. Kerala Agricultutal University.

4. Chawda, Dhirajlal Bhimji. Physiological studies on trematodes. Marathwada University.

5. Fernandez, Adelaide Calisto. Cellular immune response of insects to intraspecific and interordinal tissue implants. University of Kerala.

6. Handoo, Zaffar Ahmad. Soil and plant parasitic nematodes of vegetable and fruit crops of Kashmir. University of Kashmir.

(Continued on page 670)

Additions to AIU Library

Cassidy, Harold G. *Knowledge, experience and action: An essay on education*. New York, Teachers College Press, (c 1969). xiii, 205p.

Daivs, J. Ronnie and Morall, John F. *Evaluating educational investment*. Lexington, Heath, (c1968). ix, 112p.

Dore, Ronald. *Diploma disease: Education, qualification and development*. London, Allen and Unwin, 1976. xiii, 214p.

Dubin, S.S., ed. *Professional obsolescence*. London, English University Press, 1971. 121p.

Eddy, Elizabeth M. *Becoming a teacher: The passage to professional status*. New York, Teachers College Press, (c 1969). 167p.

Elley, Warwick B. and Livingstone, Ian D. *Externa examinations and internal assessments: Alternative plans for reform*. Wellington, New Zealand, Council for Educational Research. (c1972). 192p.

Evans, G. Edward. *Management techniques for librarians*. New York, Academic. 1976. 294p.

Gandhi, Kishore. *Issues and choices in higher education: A sociological analysis*. Delhi, B.R. Publishing Corporation, 1977. 195p.

Gujarat Committee on College Finances, 1976 (Chairman: Dr. Samuel Paul). *Grant-in-aid to affiliated colleges in the State of Gujarat: Report*. Ahmedabad, Author, 1977. 60p.

Halls, W.D., ed. *World guide to higher education*. Essex, Bowker Unesco, 1976. xxii, 302p.

Hanna, William John. *University students and African politics*. New York, Africana Publishing Company, (c 1975). xv, 296p.

Hearnden, Arthur. *Education, culture and politics in West Germany*. Oxford, Pergamon, 1976. vi, 164p.

Heath, G. Louis. *New Teacher: Changing patterns of authority and responsibility*. New York, Harper and Row, (c1973). x, 209p.

Horowitz, Irving L. and Freidland, William H. *Knowledge factory student power and academic politics in America*. Chicago, Aldine, (c1970). viii, 354p.

India, Committee on Broadcasting and Information Media (1964) (*Chairman*: Asok K. Chanda). *Radio and television: Report*. Delhi, Ministry of Information and Broadcasting. 1966, vi, 249p.

Jenkins, E.W. *Objective testing: Guide for science teachers*. Leeds, University of Leeds, 1972. 31p.

Jungk, Robert. *Everyman project: Resources for a humane future*. Hampshire, Thomas and Hundson, (c1976). 288p.

Kabwasa, Antoine and Kaunda, Martin M., ed. *Correspondence education in Africa*. London, Routledge and Kegan Paul, 1973. xv, 173p.

Kamin, Leon J. *Science and politics of I.Q.* Middlesex, Penguin, 1974, 183p.

Kaul, G.N. *Nongraded school in India*. Delhi, Sterling, (c1977). xii, 116p.

Klug, Brian. *Grading game*. London, NUS Publications, 1977. 94p.

Kobayashi, Tetsuya. *Society, schools and progress in Japan*. Oxford, Pergamon, 1976, viii, 185p.

Laska, John A. *Planning and educational development in India*. New York, Teachers College Press, (c1968). xi, 129p.

Mathews, J.C. and Leece, J.R. *Examination: Their use in curriculum evaluation and development*. London, Methuen Educational, 1976. 46p.

Munro, R.G, *Innovation: Success or failure?* London, Hodder & Stoughton, (c1977). 70p.

Reddy, V.E. and Bhat, K.S. *Out of school youth*. Delhi, Sterling, (c1977). xv, 299p.

Reid, William A. and Walker, Decker F. ed. *Case studies in curriculum change: Great Britain and United States*. London, Routledge and Kegan Paul, 1975. xiv, 268p.

Schwartz, Audrey James. *Schools and socialization*. New York, Harper and Row, 1975. viii, 204p.

U.K. Schools Council. *Common system of examining at 16+*. London, Methuen Educational, 1971. 61p.

Upton, Lawrence, ed. Examination of assessment: *Symposium proceedings, 1974*. London, NUS Publication, (c1974). viii, 64p.

Integrating NS with Commerce/Management Education

(*Continued from page 654*)

indicate the probable areas where our youth, receiving Commerce/Management education, may be involved. Looking to the diversity in our life and considering the geographical divergences, we may add many more.

Integrating National Service with Commerce/Management Curricula

The growing awareness of the need for compulsory social service for our students at the stage of first degree studies, active consideration has been currently given to the thought of integrating NSS with higher education in the country. While agreeing with the utility and necessity of National Service, different views have been expressed on the problem:

(a) One school deems it fit to make National Service compulsory for at least a year as a pre-condition for the degree.

(b) Another view-point demands a six months' National Service as a pre-condition for the award of the degree.

In the light of Deshmukh Committee's recommendation, if National Service is prescribed as a pre-condition for entry to an institution of higher learning, it may cause dislocation. The reason being the fact the institutions after enrolling the students would require of them a certain number of hours of national service before allowing them to pursue their studies further.

However, another school deems it fit to allow a certain number of months at a stretch (as holidays) meant for National Service. If pursued on these lines, the scheme would cause an increase in the stretch of academic sessions, ultimately needing adjustment in the dates of admissions, and applications for courses, scholarships and employment positions, both private and public. Otherwise, 'gaps' would cause a period of **'thrust-upon-unemployment.'**

In view of the above mentioned difficulties, it seems proper to introduce the National Service Scheme at different stretches (for Commerce/Management students also) so that it may fit in the general network of systems and organisational pattern prevalent in the country today.

In conclusion, it may be remarked that our education must fulfil the ideals and aspirations as revealed in Article I of the Universal Declaration of Human Rights, saying: "All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood." This necessarily means that education and more so Commerce and Management education devoid of its social responsibilities is a gospel of mammon and not the free and frank development of human personality. Educational institutions including those imparting Commerce/Management, have necessarily to entail the responsibility of imparting practical knowledge too with a bias for intra-communication in a community and family of man. □

CLASSIFIED ADVERTISEMENTS

UTKAL UNIVERSITY

Advertisement No. Estt. I/24219/77 **Dated 9.12.77**

Applications are invited in the prescribed form for the following teaching posts in the University Service on or before **10.1.1978.**

Sl. No.	Department	Post	No.	Specialisation
1.	Analytical and Applied Economics	Professor	1	
2.	Philosophy	(i) Professor	1	
		(ii) Lecturer	1(Temporary)	
3.	Anthropology	Lecturer	1 (Temporary)	In Social Anthropology. Preference will be given to candidates who have received training in Linguistic & Psychological Anthropology or Human Ecology & Demography.
4.	Sanskrit	Lecturer	1	
5.	Zoology	Lecturer	2	One Lecturer should have specialisation in one of the following under "desirable qualifications" 1. Biostatistics 2. Environmental Biology 3. Phisiology & Biochemistry 4. Dev. Biology 5. Endocrinology & Reproductive Physiology 6. Fisheries & Limnology
6.	Oriya	Lecturer	1	
7.	Sociology	Reader	1	Research Methodology and Industrial Sociology
8.	Director of Correspondence Courses	Lecturer		
		(i) Economics	2	Temporary
		(ii) Pol. Science	2	
		(iii) Oriya	4	
		(iv) Commerce	1	
9.	Bhubaneswar Law College	Lecturer	3 (whole time)	
		Lecturer	2 (part time)	
10.	LL.M.	Reader	1	

Scale of Pay:

Professor : Rs. 1,500-60-1,800-100-2000-125/2 Rs. 2,500/-.

Reader : Rs. 1,200-50-1,300-60-1,900/.

Lecturer : Rs. 700-40-1,100-50-1,600/.

Lecturer (Part time) Rs. 300/- likely to be revised (Consolidated D.A. as admissible from time to time under the rules of the University will be paid).

Age of Superannuation—60 years.

Essential Qualifications

(a) Professor

The Professor shall

(i) be a scholar of eminence,

(ii) possess a good academic record with First or High Second Class Masters' Degree in the Subject,

(iii) have a Doctorate Degree or published work of equivalent standard,

(iv) have independent published research work of high standard in addition to the published work mentioned in (iii) above,

(v) be engaged in active research and have experience of guiding research of a considerable period as evidenced by successful supervision of doctoral research,

(vi) be teacher for ten years out of which at least seven years should have been spent in regular teaching in Post-Graduate/Hons. Classes.

(b) Reader

The Reader shall have

(i) a good academic record with a First or High Second class degree in the subject,

(ii) a doctorate degree or published work of equivalent standard,

(iii) independent published research work (in addition to the published work mentioned in (ii) (above),

(iv) teaching and research experience for eight years out of which at least five years should have been spent in regular teaching in Post-Graduate/Hons. classes. Capacity to guide research shall be regarded as an additional qualification.

(c) Lecturer

The Lecturer shall have a good academic record with First or High Second class Master's Degree in the subject.

Desirable

Two years experience in teaching or/and M.Phil. or M.Litt. or Pre-Doctoral degree. Candidates with a Ph.D. in the subject will be preferred.

In case candidates without Ph.D. Degree are appointed, they shall be required to acquire the Ph. D. Degree within 5 years.

P.G. Department of Law

Reader

The Reader shall have

(i) a good academic record with a First or High Second Class Master's Degree in the subject,

(ii) doctorate or adequate research experience,

(iii) shall have 8 years teaching and/or Professional experience at the Bar, at High Court or court of a Higher Level out of which 3 years should have been in teaching.

Bhubaneswar Law College
Lecturer

(i) Law Graduate with 2nd Class LL.B. with 5 years Practice at the Bar, Or

(ii) Law Graduate with 1st Class LL.B. with 3 years practice at the Bar, Or

(iii) LL.M. (50% of marks).

Prescribed application forms and particulars of qualifications etc. can be had from the Registrar, Utkal University in person on payment of Rs. 7/- (Rupees Seven) only, or by post on receipt of a crossed Indian Postal Order for Rs.8.50 payable to the Registrar, Utkal University, Vani Vihar, Bhubaneswar-4. Money Orders are not acceptable.

Candidates in Govt. Service, if selected for the posts for which they have applied would be asked to pay pension contribution and leave salary in case they join the University service on foreign service terms and conditions.

The University reserves to itself the right to decide the number of posts to be filled.

S. K. Panda
REGISTRAR

MARATHWADA AGRICULTURAL UNIVERSITY
PARBHANI. (MAHARASHTRA STATE)
ADVERTISEMENT NO MAU/2/77

Application in the prescribed form are invited on or before **30/12/1977** for the following posts in the pay-scales mentioned against these posts.

Sr. No.	Name of the post	Pay scales of the posts
(1)	Dean, Faculty of Agriculture	Rs. 1600-100-2000/-
(2)	Associate Dean & Principal (Home Science)	Rs. 1100-50-1300-60-1600/-
(3)	Professor of Agril. Economics	Rs. 1100-50-1300-60-1600/-
(4)	Professor of Home Science, Food Nutrition/Textile & Clothing/ Child Development and Family Relationship.	Rs. 1100-50-1300-60-1600/-
(5)	Professor of Anatomy(Vety)	Rs. 410-30-650-EB-45-1100-50-1200/-
(6)	Professor of Animal Management (Vet)	Rs. 410-30-650-EB-45-1100-50-1200/-
(7)	Professor of Animal Genetics & Breeding (Vety)	Rs. 410-30-650-EB-45-1100-50-1200/-
(8)	Associate Professor Surgery (Vet)	Rs. 700-50-1250/-
(9)	Asstt. Prof. Microbiology (Vety)	Rs. 300-20-460-EB-20-500-25-650-EB-30-830/-
(10)	Assst. Prof. Physiology (Vety)	Rs. 300-20-460-EB-20-500-25-650-EB-30-830/-
(11)	Asstt. Prof. Animal Nutrition (Vety)	Rs. 300-20-460-EB-20-500-25-650-EB-30-830/-
(12)	Asstt. Prof. Anatomy (Vety)	Rs. 300-20-460-EB-20-500-25-650-EB-30-830/-
(13)	Asstt. Prof. Pathology (Vety)	Rs. 300-20-460-EB-20-500-25-650-EB-30-830/-
(14)	Asstt. Prof. Medicine (Vety)	Rs. 400-40-800-50-950/-
(15)	Asstt. Prof. Entomology	Rs. 400-40-800--50-950/-
(16)	Asstt. Prof, Home Science, Textile & Clothing/Home Management/Child Development and family relationship.	Rs. 400-40-800-50-950/-
(17)	Mechanical Engineer	Rs. 400-40-800-50-950/-
(18)	University Engineer	Rs. 650-1200/-
(19)	Demonstrator (Home Science)	Rs. 300-600/-
(20)	Overseer (Jr. Engineer)	Rs. 170-400/-
(21)	Veterinary Officer	Rs. 170-10-260-EB-15-380 20-500-(Veterinary graduates to start on Rs 275/-
(22)	Junior Clerk/Section Assistant	Rs. 115-4-135-5-160-EB-5-185-6-215/-

Note: The payscale of the post at Sr. No. 5,6,7,9,10,11,12 & 13 are likely to be rdvised.

Age: The age limit for the post at Sr. No. 1 & 2 shall not be more than 40 years and in case of candidaies belonging to SC/ST/NT/DNT/OBC shall not be more than 45 years as on 30-12-1977. For the posts at Sr. No. 3 to 21 age limit shall not be more than 30 years (35 years in case of candidates belonging to SC/ST/NT/DNT/OBC as on 30-12-1977). The age limit for the post at Sr. No. 22 shall not be less than 18 years and not more than 30 years for candidates belonging to SC/ST/NT/DNT on 30-12-1977.

To remove the backlog of reserve seats the posts at Sr. No. 22 have been reserved for SC/ST/NT/DNT only. The candidates belonging to SC/ST/NT/DNT only can apply for the post.

The age limit shall not apply to persons already in service of Central/State Government, this university or any other University/Institute recognised by this University. Application forms and details regarding qualification etc, for the post at Sr. No. 1 to 18 can be obtained from the Comptroller at the cost of Rs. 2/- in the form of Crossed Indian Postal Orders in the name of the Comptroller, M.A.U. Parbhani and for these posts applications in the prescribed forms complete in all respect together with crossed Indian Postal Order of Rs 8/- in the name of the Comptroller, MAU., Parahani as registration fees should reach to the Registrar, MAU., Parbhani on or before **30-12-1977.**

Application forms and details regarding qualifications etc. for the post at Sr. No. 19 to 22 can be obtained from Comptroller free of cost only for **unemployed candidates** and should be submitted without registration fees to Registrar, MAU., Parbhani on or before 30-12-1977. Other candidates willing to apply for these posts at Sr. No. 19 to 22 will have to obtain prescribed application forms at the cost of Rs. 2/- in the form of Crossed Indian Postal Order in the name of the Comptroller, MAU, Parbhani and should submit without registration fees to the Registrar, MAU, Parbhani on or before 30-12-1977.

Incomplete applications in any forms and those received after prescribed date will not be considered and no correspondance thereon will be entertained.

Reservation of post for SC/ST/NT/DNT/OBC is as per Maharashtra State Govt. Rules.

Request for forms must specify the name and Sr. No. of the post accompanied by self-addressed envolope at least of the size of 23 cm x 10 cm with 55 paise stamp adhered to it. Separate applications shall have to be made for separate posts.

If considered necessary by the university the candidate shall have to appear for personal interview in the university's office at Parbhani at candidate's own cost.

In the event of large number of applications being received in response to this advertisement, to avoid inconvenience to all concerned, at the discretion of the Vice-Chancellor, limited number of candidates may only be invited for interview even though others not invited for interview might be satisfying the prescribed minimum qualification.

Candidates already in service of Central/State Govt. or any other organisation and those in the service of this University should necessarily apply through proper channel forwarding an advance copy to the undersigned. The advance copy should reach on or before the aforesaid prescribed date. The applications to be received through proper channel should reach within a fortnight after the closing date.

The fact that the posts are advertised does not mean that necessarily all the posts will be filled in.

S. T. Kachwe
REGISTRAR

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UNIVERSITY OF BOMBAY

Western Regional Instrumentation Centre

Applications are invited for the post of Professor in the Western Regional Instrumentation Centre in the University in the grade of Rs. 1500-60-1800-100-2000-125/2-2500.

The post carries the benefit of University Provident Fund and Dearness Allowance and House Rent and Compensatory Local Allowances at the rates sanctioned by the Executive Council from time to time. A higher starting salary may be given to a person possessing high qualifications. Appointment will be on probation for a period of two years in the first instance, but this probationery period may be waived by the Executive Council in a special case. Other things being equal, preference will be given to a candidate from backward classes.

The requirements for the post are:

Essential Qualifications

1. (a) A Doctor degree in a branch of science or technology or published work of an equally high standard; and

   (b) consistently good academic record with first or high second class (B+) Master's degree in a relevant subject or an equivalent degree of a foreign University.

   The Executive Council may relax any of the qualifications prescribed in (b) above provided that the selection committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard.
2. At least ten years' experience of research in a reputed research/instrumentation laboratory.
3. Evidence of published research work and experience of guiding advanced research.
4. Proven ability in designing and building major instruments.
5. Capacity to lead and direct R & D activities.

Desirable qualifications

1. Working knowledge of some modern sophisticated instruments.
2. Experience in managing and administering work of scientists and technicians.
3. Interst in Science Education.

Two copies of the application in the prescribed form, which can be had from the Registrar, should be submitted so as to reach the Registrar, University of Bombay, Bombay 400 032, on or before **31st December, 1977.**

Candidates called for interview will have to present themselves at their own expenses.

Canvassing direct or indirect will be a disqualification.

K. S. Kolge
OFFG. REGISTRAR

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UNIVERSITY OF BOMBAY

Centre of Post-graduate Instruction and Research, Panaji, Goa

Applications are invited for the temporary post of Director in the Centre of Post-graduate Instruction and Research, Panaji, Goa, in the grade of Rs. 1500-60-1800-100-2000-125/2-2500, with special pay of Rs 300/- p.m.

The post carries the benefit of University Provident Fund and Dearness and House Rent Allowances at the rates sanctioned by the Executive Council from time to time. A higher starting salary may be given to a person possessing high qualifications. Other things being equal, preference will be given to a candidate from backward classes.

The applicant must have:

(a) A Doctor's degree or published work of an equally high standard; and

(b) consistently good academic record with First or High Second Class (B+) Master's degree in any one of the following subjects or an equivalent degree of a foreign University :

History, Mathamatics, English, Chemistry, Philosophy, Economics. French & Portuguese, Physics, Political Science, Microbiology, Hindi, Marathi and Sociology;

(c) considerable teaching experience to postgraduate classes and of guiding and conducting research work in any one of the subjects under (b) above.

The Executive Council may relax any of the qualifications prescribed in (b) above provided that the selection committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard.

Two copies of the application in the prescribed form. which can be had from the Registrar, should be submitted so as to reach the Registrar, University of Bombay, Bombay-400 032, on or before **31st December, 1977.**

Candidates called for interview will have to present themselves at their own expense.

Canvassing direct or indirect will be a disqualification.

K.S. Kolge
OFFG. REGISTRAR

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INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR

Advertisement No. R/29/77

Applications are invited for appointment to various academic positions in the following departments of the Indian Institute of Technology, Kharagpur (West Bengal).

Posts and Scale of Pay

1. Professor: Rs. 1500-60-1800-100-2000-125/2-2500/- plus D.A. at admissible rates.
2. Assistant Professor : Rs. 1200-50-1300-60-1900/- plus D.A. at admissible rates.
3. Lecturer : Rs. 700-40-1100-50-1600/ plus D.A. at admissible rates.

Age

1. Professor : Preferably below 50 years.
2. Assistant Professor : Preferably between 30 and 45 years.
3. Lecturer : Preferably between 25 and 38 years.

Qualifications

1. **Professor**

Essential : First class Master's Degree or , second class Master's Degree with Doctorate Degree in appropriate field with a minimum of 10 years experience in teaching at post-graduate level in an Institution of university standard and research or development work. Should have specialised knowledge in one or more specified fields.

Desirable : (a) Research publications in reputed journals. (b) Experience in guiding research. (c) Ability to organise and develop laboratories in the specialised fields.

2. **Assistant Professor**

Essential : First class Master's Degree or second class Master's Degree with Doctorate Degree in appropriate field with a minimum of 5 years' experience in teaching and/or research in an institution of university standard. Should have specialised knowledge in one or more specified fields.

Desirable : (a) Publications in reputed journals. (b) Experience of carrying out independent research. (c) Corporate membership of a recognised professional institution.

3. **Lecturer**

Essential: First class Master's Degree or Second class Master's Degree with Doctorate Degree in the appropriate branch of study with specialisation in one or more specified subjects with research or industrial experience of not less than 2 years.

N.B. **For faculty posts in Architecture and Regional Planning, the essential qualifications should be as under:**

First class B. Arch. followed by a Post-graduate degree/2 years diploma in Architecture and/or Planning with evidence of excellence in Architectural designing and/or detailing.

1. **Department of Mechanical Engineering**: (a) Proressor (b) Assistant Professor

Field of specialisation: (a) Professor

(a) Mechanics of Solids/Machine Dynamics, (b) Fluid Mechanics/Hydraulic Machines, (c) Design Engineering, (d) Material Transportation Engineering/Vehicle Engineering, (e) Production Engineering/Foundary Engineering/Machine Tool Engineering, (f) Thermal Engineering—Steam/Nuclear Power, I.C. Engines, Gas Turbines, Refrigeration and Air conditioning, Heat Transfer, (g) Energy conversions, (h) Mechanical Systems Engineering—Measurements and Control/Fluidics (i) Control Engineering.

N.B.: In case the candidates for the post of Professor are not found suitable, the Selection Committee may consider them for the post of Assistant Professor.

(b) Assistant Professor

(a) Applied Mechanics, (b) Thermal Engineering, (c) Production Engineering (d) Design Engineering.

2. **Department of Architecture and Regional Planning**:

(a) Professor, (b) Assistant Professor, (c) Lecturer

Field of specialisation:

(a) Professor: Architectural Design and Architectural Construction.

(b) Assistant Professor: Architectural Design/Detailing and/or Landscape Architecture.

(c) Lecturer: Architectural Design and Architectural Construction.

3. **Department of Humanities and Social Sciences:** Lecturer

Field of specialisation

For the 1st post: Master's Degree in Political Science/Sociology.

For the 2nd post: Master's Degree in French or in English with a good diploma in French with ability to speak French and to comprehend scientific/technical literature in French and render it into English.

Only capable persons with uniformly good academic career, aptitute for teaching post-graduate and undergraduate classes, research and development work need apply.

Adequate provision for reservation of post of Lecturer for SC/ST candidates as per Government orders has been made. In case suitable candidates from these communities are not available, recruitment will be made from general candidates treating the post as dereserved.

Application form may be had from the Registrar on request along with an unstamped self-addressed envelope of size 23cm x 10cm. Request for application form will not be entertained after **the 29th December, 1977**. Application fee (non-refundable) of Rs. 7.50 (Rs. 1.87 for SC/ST candidates) payable by means of crossed Indian Postal Order be made to Indian Institute of Technology, Kharagpur at Kharagpur-2 Post Office, Distt. Midnapore (West Bengal).

The last date for submission of application to the Registrar of the Institute is the **14th January, 1978**.

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UTKAL UNIVERSITY

Advertisement

No. Estt. II(8AD)/23454/77

Dated 30.11.77

Applications ara invited for the post of (i) Development Officer and (ii) Controller of Examinations of the Utkal University.

Five copies of the application form will be supplied to each post to the candidates from the office of the undersigned in person on payment of Rs. 5/- or by post on receipt of a crossed Indian Postal Order worth Rs 7.50 paise payable to the Finance Officer, Utkal University, Vani Vihar, Bhubaneshwar-4. No money order will be entertained for the purpose. The last date for receipt of application for the post is **15.1.1978**. No application will be entertained after the due date. The candidates who are in service should apply through proper channel but they should submit advance copies of their applications along with attested copies of certificates and mark-sheets etc. so as to reach this office by the date specified. The candidates in Govt. service, if selected for the post applied for, would have to pay the pension contribution and leave salary in case they want to join the University on foreign service terms and conditions.

Candidates are required to submit along with their applications attested copies of their Diplomas, Certificates and mark-sheets of all examinations and testimonials.

Qualification and experience

(1) At least a second class Master's Degree with 48% marks from any of the Indian Universities.

(2) At least eight years experience in administration preferably academic administration.

(3) For the post of Controller of Examinations preference will be given to candidates having experience in conducting examinations. None need apply who is below 35 years in age.

Scale of Pay

Rs 700-50-1250/- (The scale is likely to be revised).

A higher initial pay may be given to a candidate in case of a suitably qualified and experienced person.

S.K. Panda
REGISTRAR

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THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA

Notification No. 12

Applications in the prescribed form are invited on or before **16-1-1978** for the following pasts. **Prescribed application form will be available from the undersigned along with the details of qualifications and experience on prepayment of crossed Indian Postal Order of Re 1/- only for each post.**

M.S. University Office

(1) Development Officer

(Scale: Rs. 900-45-1080-50-1180-EB-50-1280-55-1500)

M.S. University of Baroda Press

(2) Manager

(Scale: Rs. 900-45-1080-50-1180-EB-50-1280-55-1500)

Oriental Institute

(3) Critical Apparatus Writer

(Scale: Rs. 425-15-500-EB-15-560-20-600-EB-20-700)

The above posts carry usual allowances as per University Rules.

The application form should be accompanied by Indian Postal Order of Rs. 7.50 for each post. Candidates if called for interview will have to come at their own expense.

All things being equal preference will be given to the candidates belonging to Scheduled Castes and Scheduled Tribes.

K. A. Amin
REGISTRAR

Theses of the Month

(*Continued from page 665*)

7. Patil, Supada Govind. Plankton ecology of few water bodies from Nagpur. Nagpur University.

8. Ramchandran, N. Studies on the neurosecretory system and other endocrine glands of two teleosts, pampuls argenteus (Euphr) and parastromateus niger (Bloch) off Saurashtra Coast. Saurashtra University.

9. Varghese, M.D. Biology of mysids. University of Kerala.

10. Verghese, T.P. Studies on muscles gonads and liver of pomfrets, pampus argenteus (Euphr) & purastromateus Niger (Bloch) off Saurashtra Coast. Saurashtra University.

Medical Sciences

1. Chandrasekaran, Philip. Biochemical changes on exposure simulated high altitude. University of Delhi.

2. Chaudhuri, Dhruba. Biochemical studies on toxemia of pregnancy. University of Calcutta.

3. Chaudhuri, Samares. Experimental studies on structural and functional changes in intestine exposed to ionizing radiation and effect of cold on such changes. University of Calcutta.

Agriculture

1. Chandramohan, J. Biometrical studies of rice, Oryza sativa L: Breeding value of different dwarf sources. Tamil Nadu Agricultural University.

2. Jaganathan, V. Nutritional investigations of seaweeds in chick ration. Tamil Nadu Agricultural University.

3. Mallikarjunaiah, R.R. Associative action of soil and seed fungi and nitrogen fixing bacteria. Mahatma Phule Krishi Vidyapeeth.

4. Mandal, Rames Chandra. Interaction of calcium carbonate with sodium in sodic soils and possibilities of its application in recalamation of such soils. University of Calcutta.

5. Raj Kumar. Response of barley to applied nitrogen, stored soil moisture and supplementary irrigation. Punjab Agricultural University.

6. Ramiah, S. Studies on slow-release nitrogenous fertilizers and nitrification inhibitors in rice and their residual effect. Tamil Nadu Agricultural University.

7. Shayam, Kewal Ram. Studies on persistence of some protective fungitoxicants on plant foliage. Punjab Agricultural University.

LIBRARY
6621

UNIVERSIT'POONA

Applications arited for the undermentioned pa the various Departments of thersity.

1. Professors

(1) English (Lan Stylistics and Language Teachinne), (2) Physics (Theoretical Solid Physics) (One).

2. Readers

(3) Marathi (Mal Literature) (One) (4) Centre oanced Studies in Sanskrit (Naya) (O

3. Lecturers

(5) Physics (F (6) Chemistry: Organic (Two), Inic (Two), Physical (Three), Bisics (One), (7) Botany (Five), (8logy (One), (9) Geology (Three), Statistics (Four), (11) Biometry (Or12) Experimental Psychology (One)

General Qualificat

1. Professor

Must be schola eminence, must have to his creesearch work of independent meriust possess fairly long experience eaching of Post-Graduate classes guiding advance research in the retive subjects.

2. Reader

Must possess f long experience of teaching of Post-duate classes and guiding research he respective subjects.

3. Lecturer

Must have a octor's Degree or published work an equally high standard and cotently good academic record withrst or High Second Class (B) Ma's Degree in a relevant subject or aquivalent Degree of a foreign Univers

Minimum Qualifions

(1 & 2) Professord Reader

As prescribed the University for recognition as t-Graduate Teacher (by research).

(3) Lecturer

As prescribed the University for recognition as st-Graduate Teacher (by Papers).

Scales of Pay

Professor: R 1500-60-1800-100-2000-125 2-25.

Reader: Rs. 00-50-1300-60-1900.

Lecturer: Rs. 0-40-1100-50-1600.

All posts c/y usual allowances admissible und University rules in force from time time.

Age Limit

Candidates aplying for the posts of Professors sheld ordinarily be below the age of 50 yrs. those applying for the posts of Releers should ordinarily be below the ge of 45 years, those applying for te posts of Lecturers should ordinary be below the age of 35 years. Howeer, this age limit may be relaxed in e cases of deserving candidates.

Eight copies f applications together with the eight opies of testimonials, if any, separatel for each post, giving particulars in the prescribed form should be sent o the Registrar so as to reach him nt later than the **7th January, 1978.**

The prescribed set of application forms, together with requisite detailed information, will be supplied to the candidates, on request accompanied by (1) a self addressed envelope (23 cm × 10 cm) bearing postal stamps worth Re. 1/- for the postage, and (2) a postal order of Rs. ten drawn in the name of the Registrar, separately, for each post. This amount will also be accepted in cash in the University Office.

The applicants, in their letters, asking for set of application, must specify (i) the name and (ii) the serial number of the post, for which they want to apply.

The selected candidates will be on probation for a period of two years and will be required, on confirmation, to contribute to the University Provident Fund and to enter into an agreement of service with the University. They will also have to pass a test in elementary Marathi, at the time of confirmation, if Marathi is not their mother-tongue.

Notes

(1) Those who are employed must submit their applications through the proper channel.

(2) Some of the conditions may be relaxed in the case of exceptionally capable candidates.

(3) Candidates called for interview will have to present themselves for an interview at their own expense.

(4) Canvassing, direct or indirect, will be a disqualification.

(5) In the case of Lecturers, other things being equal, preference will be given to candidates belonging to Scheduled Castes (including Scheduled Castes converts to Buddhism) and Scheduled Tribes.

(6) Higher starting salary may be given to deserving candidates.

G. J. Abhyankar
REGISTRAR

No. BUTR/S0 2353/
Ganeshkhind, Poona-7

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JAMIA MILLIA ISLAMIA

Jamia Nagar, New Delhi-110025

Advt. No. 14/77-78

Applications on the prescribed form, which can be had from the Registrar's Office on any day (except Sunday and Holiday) between 9.00 a.m. to 12.00 noon or by sending a self addressed and duly stamped (25 paise) envelope of 10 × 23 cms., are invited along with the postal order of Rs. 3/- for the following posts so as to reach the Registrar by 1.00 p.m. on **31.12.1977.**

Ability to teach in Urdu and Hindi is a desirable qualification for teaching posts and for non-teaching posts the functional knowledge of these languages is essential.

D.A., C.C.A. and H.R.A. will be given as per Jamia rules.

Relaxation in any of the qualifications may be made on the recommendations of the Selection Committee in exceptional cases.

1. Three Lecturers (Grade: 700-1600): Two in Economics (Temporary likely to be made permanent) and one in Mathematics (leave vacancy).

Essential

Consistently good academic record with a first or high second class (B+) Master's Degree or an equivalent degree of a foreign University in a relevant subject/subjects.

Having regard to the need for developing interdisciplinary programme the Master's/Doctor's degree may be in relevant subject/subjects.

Desirable

(In order of preference):- A Doctor's Degree or Evidence of research work of equivalent standard in the relevant subject. (ii) Teaching experience of Degree/Post Graduate classes.

Provided that if a teacher is not a Ph.D. at the time of his/her appointment and does not qualify himself/herself for the award of a Ph.D. Degree from a recognised University in the subject which is being taught by him/her within the period of five years from the date of his/her appointment or does not give evidence of research work of equal standard within that period in the relevant subject/subjects, he/she shall not be entitled to any future increments after the expiry of the said period of five years till such time he/she fulfils the above mentioned requirements.

2. One Extension Assistant Grade: 425-640 (Temporary), Urdu Correspondence Course.

An M.A. in Urdu with a minimum of 50% marks with an adequate knowledge of Hindi.

3. One Stenographer (Grade: 425-700):

Higher Secondary with a minimum speed of 40 w.p.m. in English typing and 120 w.p.m. in Shorthand in English. Knowledge of Urdu.

Desirable

(1) Graduate with previous experience of nothing and drafting in English. (2) Knowledge of Hindi.

4. One Clerk Typist (Grade: 260-400)

(1) Matriculate. (2) Qualifying in the prescribed test in English and typing with a minimum speed of 35 w.p.m, (3) Knowledge of Urdu.

Desirable

(1) Previous office experience. (2) Knowledge of Hindi.

5. Four Lab. Attendants (Grade: 210-270):

Matriculation or an equivalent Examination with Science subjects.

Desirable

Should have worked in a laboratory for at least six months.

Important

Incomplete applications in any form i.e. without attested copies of certificates, degrees, diplomas, mark-sheets, prescribed application fee and on plain paper will not be entertained.

Zamir Hasan
OFFG. REGISTRAR

UNIVERSITY NEWS, DECEMBER 16, 1977. Regd. No. R. N. 7180/63 Postal No. D. (C) 534

LUCKNOW UNIVERSITY

Advertisement No. 14/1977

Applications are invited for the post of a temporary Professor of Dentistry (Oral Surgery) in the Department of Dentistry, K.G. Medical College, Lucknow in the grade of Rs. 1200-50-1500-1800.

Qualifications

B.D.S. or equivalent qualification with a good academic record and post-graduate qualifictions (M.D.S. or its equivalent). Candidates must possess five years' teaching experience in the subject concerned as Reader or in an equivalent post.

Consulting practice in the speciality allowed provided it does not interfere with the official duties. The University will, however, be free to restrict or abolish consulting practice altogether at its discretion in which case the prescribed non-practising pay and non-practising allowance, will be given.

For purposes of qualifications for the above post, the degrees obtained in a subject taught in a Department which is subsequently constituted into separate department, shall be deemed to be degree in the subject concerned, for the newly constituted department.

Special training or experience in the speciality concerned shall be an additional essential qualification. Relaxation in the prescribed qualifications may be made in exceptional circumstances in accordance with the Ordinances.

Applications in the prescribed form (available on request, free of cost, from the office of the Registrar, with a self addressed envelope 23 cm. × 10 cm.) with recent testimonials, publications etc. should reach the Registrar, Lucknow University by **Wednesday, December 28, 1977.** Candidates who are in service should send their applications through proper channel. Application forms to outstations will be issued upto **December 20, 1977.**

B.N. Singh
REGISTRAR

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LUCKNOW UNIVERSITY

Advertisement No. 15/1977

Applications are invited for the following posts:-

1. One Professor of Anthropology in the grade of Rs. 1500-60-1800-100-2000-125/2-2500.

Qualifications

Essential

1(a). A doctorate in the subject of study concerned or a published work of a high standard in that subject; and

(b). Consistently good academic record (that is to say, the overall record of all assessments throughout the academic career of a candidate) with first class or high second class (that is to say, with an aggregate of more than 54% marks) Master's degree in the subject concerned or equivalent degree of a foreign University in such subject.

Where the Selection Committee is of the opinion that the research work of a candidate, as evidenced either by his thesis or by his published work, is of a very high standard, it may relax any of the qualifications specified in sub-clause (b) of clause 1.

2. Experience of teaching post-graduate classes for not less than seven years and/or having conducted and successfully guided research work for seven years in a recognised Institution and having published work of high standard in the subject concerned.

Preferential

High Academic distinctions.

Readers in the grade of Rs. 1200-50-1300-60-1900:

2. One Reader in Anthropology
3. One Temp. Reader in Economics
4. One Reader in Archaeology in the Department of Ancient Indian History & Archaeology. (Plan Post)
5. One Reader in English
6. One Reader in Linguistics in the Department of English & Modern European Languages.
7. One Reader in Arabic (Plan Post)
8. Two Readers in Chemistry (Plan Posts)

Qualifications

Essential

1(a) A doctorate in the subject of study concerned or a published work of a high standard in that subject; and

(b) Consistently good academic record (that is to say the overall record of all assessments throughout the academic career of a candidate) with first or high second class (that is to say, with an aggregate of more than 54% marks) Master's Degree in the subject concerned or equivalent degree of a foreign University in such subject.

Where the Selection Committee is of the opinion that the research work of a candidate, as evidenced either by his thesis or by his published work is of a very high standard, it may relax any of the qualifications specified in sub-clause (b) of clause 1.

2. Experience of teaching honours/post-graduate classes for not less than five years and published research work of high standard in the subject.

Preferential

Experience of teaching post-graduate classes and guiding research.

Lecturers in the grade of Rs. 700-40-1100-50-1600

9. One temporary Lecturer in Economics
10. One Lecturer in English
11. One temporary Lecturer in Statistics
12. One temporary Lecturer in Chemistry.

Qualifications

Essential

(a) A doctorate in the subject of study concerned or a published work of a very high standard in that subject; and

(b) Consistently good academic record (that is to say, the overall record of all assessments throughout the academic career of a candidate) with first class or high second class (that is to say, with an aggregate of more than 54% marks) Master's degree in the subject concerned or equivalent degree of a foreign University in such subject.

Where the Selection Committee is of the opinion that the research work of a candidate, as evidenced either by his thesis or by his published work is of a very high standard, it may relax any of qualifications specified in sub-clause (b) supra.

Preferential

Experience of teaching degree/honours/post-graduate classes for two years.

General

For purposes of qualifications required for the above posts, the Degree obtained in a subect taught in a Department which is subsequently constituted into separate Departments, shall be deemed to be degree in the subject concerned for the newly constituted Departments.

Benefits of Provident Fund available as admissible under the rules on confirmation for permanent posts. Period of probation for permanent posts is one year. It is not necessary to fill any/all of the advertised posts.

For the posts of Lecturers, other things being equal preference will be given to Scheduled Castes/Tribes candidates, who are considered fit. Such candidates should indicate in their applications that they belong to Scheduled Castes/Tribes, attaching certificate from the District Magistrate of the District to which they belong. No other certificate for this purpose will be entertained. In case of Scheduled Castes/Scheduled Tribe candidates interviewed by the Selection Committee, if suitable candidates are not available for appointment to the posts of Lecturers, the Selection Committee may recommend appointment of suitable candidate as Research Associate in the scale of Rs. 700-1300 for a period upto three years and these persons could later compete for the posts of Lecturers as and when vacancies occur.

Applications on the prescribed form (available on request, accompanied with a self-addresssed envelope of size 23 cm × 10 cm, free of cost, from the office of the Registrar) with recent testimonials, publications etc. should reach the Registrar, Lucknow University, by Thursday **January 2, 1978.** The candidates who are in service must send their applications through proper channel. Application Forms to outstation candidates will be issued by post upto **Saturday, December 24, 1977.**

B.N. Singh
REGISTRAR

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